REPORT RESUMES

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MISSOURI ADULT VOCATIONAL-LITERACY MATERIALS DEVELOPMENT PROJECT. FINAL REPORT.
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DESCRIPTORS- *LITERACY EDUCATION, *READING MATERIALS, *ADULT BASIC EDUCATION, *MATERIAL DEVELOPMENT, *INITIAL TEACHING ALPHABET, VOCATIONAL INTERESTS, ILLITERATE ADULTS, ADULT CHARACTERISTICS, EDUCATIONAL RESEARCH, TEXTBOOK EVALUATION, TEACHING METHODS, ADULT EDUCATORS, NATIONAL SURVEYS, INTERVIEWS, TESTING, GRADE 6, TEACHING GUIDES, FUNCTIONAL ILLITERACY,

IN THE MISSOURI ADULT VOCATIONAL-LITERACY MATERIALS DEVELOPMENT PROJECT MATERIALS WERE DEVISED FOR TEACHING ADULTS TO READ, WRITE, AND SPELL AT THE FUNCTIONAL (SIXTH GRADE) LEVEL. IN THE RESEARCH PHASE, THE NEEDS, CHARACTERISTICS, LITERACY LEVEL, OCCUPATIONS, AND INTERESTS OF THE ILLITERATE ADULT WERE STUDIED, AND TEACHING MATERIALS AND METHODS WERE EXAMINED. STUDENTS AND TEACHERS WERE INTERVIEWED AND THERE WAS A NATIONAL SURVEY OF LITERACY PROGRAM DIRECTORS. IN THE MATERIALS DEVELOPMENT PHASE THREE LEVELS OF BASIC AND INTERMEDIATE EDUCATIONAL MATERIALS, WITH TEACHERS' GUIDES, AND SUPPLEMENTARY OCCUPATIONAL BOOKLETS WERE CREATED. A VOCATIONAL THEME CHARACTERIZED THE SERIES. THE INITIAL TEACHING ALPHABET (I.T.A.) WAS USED, WITH TRADITIONAL ORTHOGRAPHY PRINTED ON THE FACING PAGE. DURING THE EVALUATION PHASE, SAMPLE CLASSES OF ILLITERATE ADULTS USED THE MATERIALS IN 100-HOUR INSTRUCTIONAL PROGRAMS. THESE TRIALS INDICATED THAT THE MATERIALS WERE EFFECTIVE IN TEACHING ADULTS WORD AND PARAGRAPH MEANING, WORD-STUDY SKILLS, AND SPELLING. THE MATERIALS SHOULD BE USED BY TEACHERS TRAINED IN THE USE OF I.T.A. AND IN TEACHING READING TO ADULTS. (DOCUMENT INCLUDES A REVIEW OF PUBLISHED ADULT LITERACY EDUCATION MATERIALS AND SUMMARIES OF INTERVIEWS WITH TEACHERS AND STUDENTS, OF STUDENT TESTS, AND OF THE NATIONAL SURVEY. THERE ARE 24 TABLES.) (AJ)

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August 1967

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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THE UNIVERSITY OF MISSOURI
College of Education
Columbia, Missouri 65201

THE MISSOURI ADULT VOCATIONAL-LITERACY MATERIALS DEVELOPMENT PROJECT

Project No. 034-65
Contract No. OE-5-85-027

Howard W. Heding, Director
Wilbur S. Ames, Assistant Director
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With the Assistance of
William G. Grimsley and Larry Andrews

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The University of Missouri

Columbia, Missouri 65201

August, 1967

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CHAPTER I

INTRODUCTION

Statement of the Problem

Numerous surveys and studies during the late 1950's and early 1960's disclosed the fact that substantial numbers of American adults, living in both rural and urban areas, are unemployable and cannot participate effectively in the economy and the society because of a lack of basic and/or functional literacy. There is further evidence available that many such persons cannot undergo training to fit them for modern vocational pursuits because they lack the basic and/or functional literacy. The needs of these persons, who are found in nearly every state, have created a national concern as evidenced in the legislation of Title II, B of the Economic Opportunity Act of 1964 (P.L. 88-452), the earlier Manpower Development and Training Act of 1962 (P.S. 87-415), and the Vocational Education Act of 1963 (P.L. 88-210).

Two major problems were encountered in attempts to assist in alleviation of the need for adult literacy education. First, appropriate materials needed for basic reading and communications instruction of adults and appropriate functional materials of an intermediate nature (lower than the general adult level of vocabulary and comprehension) were for the most part unobtainable. Those which were obtainable either were outmoded in content; failed to incorporate recent knowledge, concepts, and methods of instruction; were not amenable to use in group teaching and learning situations; or did not contain subject matter appropriate to the interests and motivations of adults whose goals and needs are urgent if they are to be vocationally trained to enter into employment. Secondly, teachers who had been trained to instruct adults were not available. Most teachers had been prepared to teach reading and communication skills to children of ages 5 through 18. While methodology and materials may be similar for the teaching of children and adults in many respects, substantial differences exist both in the clientele and methods and materials suitable to them. Motivational considerations, social and economic backgrounds and needs, the urgency of the need to achieve functional reading and communication proficiency, experience and ability differences, and a host of other factors make the instructional process for adults uniquely different from that for children. Either through teacher training or the provision of instructional materials for teachers assistance was needed to aid the teacher of adults in the important aspects of the teaching task.

Purposes and Objectives of the Project

The purpose of this project was to carry on essential research to enable the development of basic and intermediate reading, writing and spelling materials based on vocational and daily life subject matter for the instruction of adults who are at illiterate and functionally subliterate levels, using the initial teaching alphabet (i.t.a.) jointly with traditional orthography (t.o.).

The research phase of the project had the objective of ascertaining the basic needs, social needs, personal and social characteristics, levels of functional literacy and potential of adults needing literacy training. On the basis of such information the major objective of the project was to develop materials which could be used to teach illiterate and functionally illiterate adults to read, write, and spell.

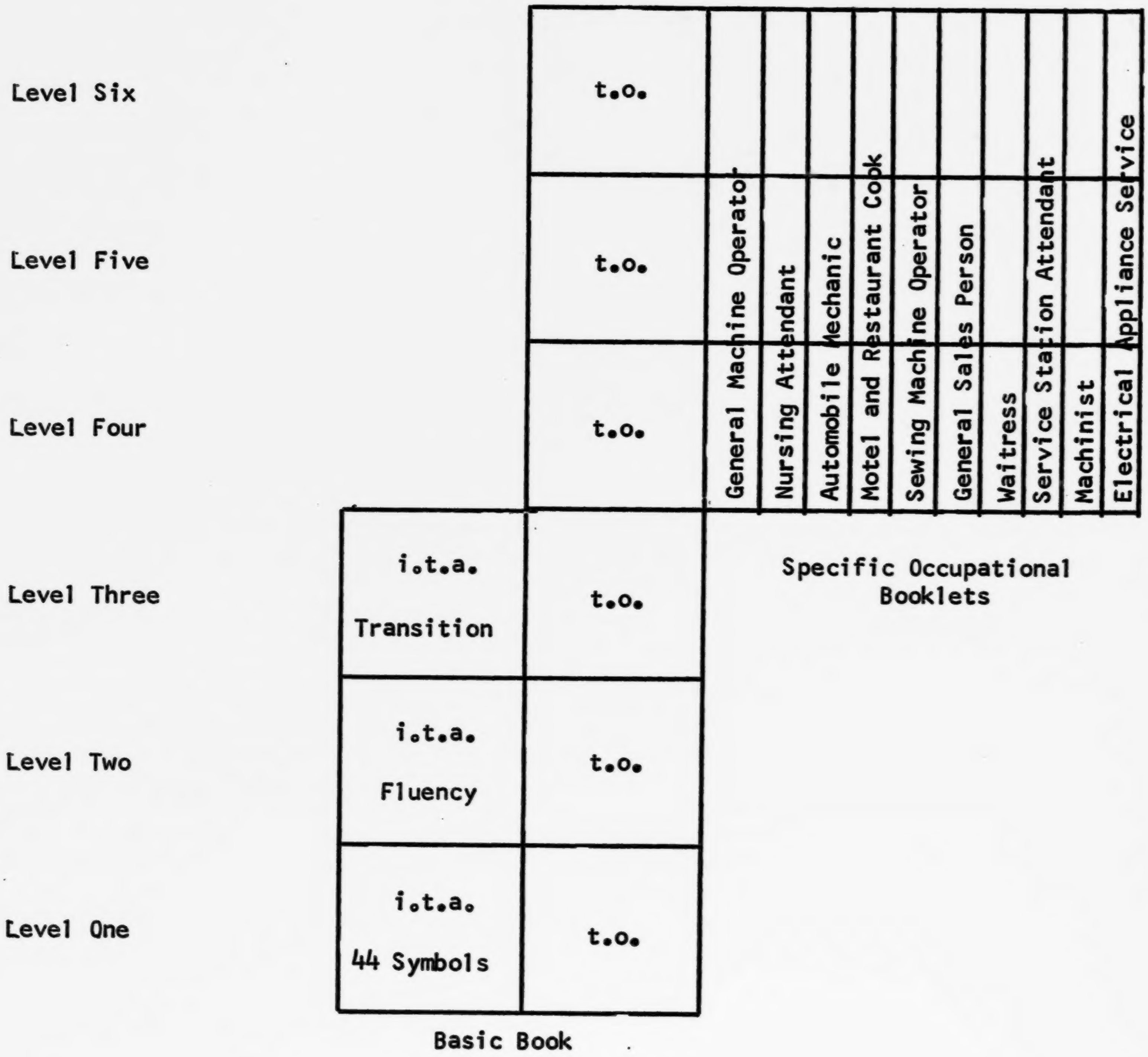
The materials development phase of the project was planned to include the development of a single, paper-bound, workbook-textbook of approximately 175 pages which would incorporate instructional materials in reading, writing and spelling beginning with lessons designed for the non-reader and proceeding through three levels or grades of reading instructional materials. After a few pages of introductory lesson material designed to familiarize the student with the initial teaching alphabet, the content would be arranged so that facing pages would contain instructional material in i.t.a. and the same material in traditional orthography (t.o.). In this way the learner would be able to make a gradual and continuous transition from i.t.a. to conventional print. At the same time that instruction is being given in word recognition, parallel instruction would be given in comprehension, writing, and spelling. The content of the basic materials would be so graded in difficulty that by the time the learner had completed the program he would be reading on a level approximating that on which children read at the end of the third year of school. To extend the reading, writing and spelling program to the sixth level, comparable to sixth grade, a set of intermediate reading materials was planned. These materials would not employ the initial teaching alphabet for use in reading skill development, but traditional alphabet was to be used primarily with only i.t.a. vocabulary assistance provided. The intermediate materials were planned to develop facility in reading and to provide functional competence in various vocational areas and in areas of daily living. The vocational and daily living theme would characterize the entire series of lessons. Content would stress home living, development and improvement, health, and vocational and technical areas of work appropriate to the educational level of the adults for whom the materials were planned. Teachers' guides were planned to accompany each level of instructional materials. Upon completion of instruction using the series of materials it was anticipated that an adult would be able to read the common adult literature such as newspapers, magazines, and instructional materials related to his vocation.

In addition to the basic and functional materials and teachers' guides, a series of paper-bound booklets on a variety of subjects related to vocations and occupations were planned. The proposed set of approximately 10-12 booklets was invisioned as supplemental reading materials and as an aid to familiarizing the adult with various occupations which he or she might pursue. The plan for these supplemental materials included the purpose of providing information to the adult which would aid him in entry into an occupation. These materials were not intended to include all vocations or occupations but to serve as examples of very basic occupational materials which would be helpful to the adult attempting to achieve functional literacy. The plan of materials development is set forth in Figure 1.

During the materials development phase of the project continuous tryouts of the materials with adult illiterate and subliterate students was planned in order to evaluate and adjust the teaching techniques, vocabulary acquisition rate, content, readability, and printing and format to achieve optimum effectiveness. Upon completion of the materials development phase it was planned to try out the materials with samples of illiterate and functionally illiterate adult students who would be representative of such American adults for the purpose of evaluating the effectiveness of the materials. Although training of teachers in the use of the materials was originally planned as a part of the project, this part of the proposed plan was not implemented due to contract policy provisions which do not permit this type of activity. To assure that adequately prepared teachers were available for the final try-out and evaluation of the materials, members of the research and development staff and one teacher who had not participated in the materials development would be employed to carry on the teaching and data collection for the evaluation.

Figure 1

SCHEMATIC DESIGN
OF
THE LITERACY EDUCATION MATERIALS


Level Six
Level Five
Level Four
Level Three
Level Two
Level One
t.o.
t.o.
t.o.
i.t.a.
Transition
t.o.
i.t.a.
Fluency
t.o.
i.t.a.
44 Symbols
t.o.
Basic Book
General Machine Operato
Nursing Attendant
Automobile Mechanic
Motel and Restaurant Cook
Sewing Machine Operator
General Sales Person
Waitress
Service Station Attendant
Machinist
Electrical Appliance Service
Specific Occupational Booklets

CHAPTER II

DESIGN AND PROCEDURES OF THE PROJECT

The plan of the project was comprised of a research phase, a materials development phase, and an evaluation phase. The detailed methodology and procedures for each phase will be described in the following sections.

Research Phase

The research phase of the project was carried on to ascertain the basic needs, social needs, personal and social characteristics, levels of functional literacy, and potentials of adults needing literacy training. A further purpose of this phase was to analyze existing materials available for teaching illiterate or functionally illiterate adults in order that all information be found which would enhance the materials to be developed. Finally, research into the literature pertaining to the technical aspects of development of adult literacy meterials, including such aspects as use of illustrations, content, type face, spacing, and the like.

Five types of research were carried on. First, a survey of the literature related to the following topics pertaining to illiterate and functionally illiterate adults was undertaken:

1. Social and economic characteristics
2. Racial and ethnic characteristics
3. Intellectual potential
4. Levels of functional literacy including oral vocabulary
5. Vocational orientation and vocational aptitudes and interests
6. Geographical distribution of adults with needs for the proposed materials and instruction
7. Motivations characteristic of adults-types and levels

Secondly, consultation and interviews with individuals who were informed relative to the above mentioned topics were utilized in order to supplement and complement information collected through the review of the literature. Persons interviewed included sociologists, specialists in adult education, specialists in vocational education and teachers of adults. Third, structured interviews were held with 35 teachers who had experience in adult basic education programs. Fourth, interviews and testing of students in basic literacy education programs were planned. A sample of approximately 50 adult persons in several programs would be interviewed and tested for intelligence. Included in the sample would be adults from voluntary programs, Manpower Development and Training Programs, a Basic Adult Education Program in a large city, and basic education programs in prisons. Fifth, a questionnaire would be devised and distributed to a representative sample of teachers and directors in adult basic education programs throughout the United States. A detailed presentation of the methodology of each of these researches follows:

Review of the Literature

A thorough review of the literature and research pertaining to adult basic literacy education, adult functional literacy education, social and economic characteristics, racial and ethnic characteristics, intellectual potential, levels of literacy, vocational orientation and aptitudes and interests, geographical distribution, motivational characteristics and available adult instructional materials. Systematically using catalogs, indexes, abstracts, and reports of research. Available information pertaining to each of the topics mentioned above was located and notes made. The information was then organized under the headings:

I. Definitions and Demographic Characteristics
II. Measurement of Adult Intelligence
III. Psychological, Sociological, physical, and Related Characteristics
IV. Vocational Backgrounds, Expectations and Interests
V. Review of Available Adult Reading Instructional Materials
VI. Instructional Methodology for Adult Illiterates

The findings of the review of the literature are presented in Chapter III of this report.

Consultations with Authorities and Experts

Individual and group interviews were scheduled with sociologists, adult educationists, prison educators, representatives of adult education programs in city school systems, Indian educators, representatives of organized labor (education office), specialists of the United States Office of Education, representatives of the Labor Department, Office of Manpower Development and Training and miscellaneous persons who would have knowledge of the topics with which this study was concerned. Further, an authority on the Initial Teaching Alphabet from the University of London, England and an expert in materials development who had formerly been employed by Scott-Foresman Company, Publishers were consulted on the development of materials. Two programs using i.t.a. with adults were visited and conferences held with the personnel responsible for the program. One program was a research project at the University of Detroit and the other was an adult basic education class in University City, Missouri.

In the early stages these interviews were often informal and when more formalized they were semi-structured and open-ended. As more information was gathered, the interviews became more structured and began to focus on the content to be used in the materials to be developed. The results of these consultations are included in Chapter III of this report.

Structured Interviews with Teachers of Adults

Purpose of the Interviews

The purposes of teacher interviews were:

1. To gather information concerning teacher's reactions to materials they have used and their specific ideas and recommendations as to what the nature of appropriate content for adult illiterates should be;

2. To gather information concerning certain aspects of the training, background, and experience of teachers of adult illiterates which could serve as resource material in preparing instructional materials and in planning a teacher training program;

3. To gather information concerning general teaching methods and techniques and the characteristics of adult illiterates which could serve as resource materials in planning a teacher training program;

4. To identify further gaps of knowledge in various areas of adult illiteracy that more sophisticated research for the future could be put into focus.

Design of the Investigation

Adult basic education teachers were interviewed at their schools by members of the Missouri Vocational Literacy Research Project staff. A semi-structured, open-ended type interview procedure was followed. Teachers were interviewed individually.

Although interviewers had prepared questions, teachers often anticipated these, and it was not always possible or considered desirable to rigidly follow the prepared sequence of items. The specific questions asked depended somewhat on the nature of the program and the particular assignment of the teacher being interviewed. The interviewing procedure permitted the use of follow-up questions. This enabled the interviewer to clarify questions and answers and to probe topics in depth when necessary. The chief advantage of this individual interview approach was its flexibility which made possible a richer source of information.

Interviews were taped and the pertinent information was later transcribed. Interviews varied in length, but usually lasted about forty to sixty minutes.

Thirty-five teachers with experience in Adult Basic Education Programs were the subjects for this study. Certain descriptive characteristics of these subjects were presented in the findings.

Teachers from the following programs were interviewed.

Project R.E.A.D. in Detroit, Michigan

Voluntary Improvement Program in St. Louis, Missouri

Basic Adult Education Program in Chicago, Illinois

Manpower Training Basic Education Program in Kansas City, Missouri

Missouri Department of Corrections Basic Education Programs at Moberly, Jefferson City, and Algoa.

These programs were selected because they and their teachers represent several dimensions of possible significance to adult literacy training. These dimensions are:

1. The nature of the program, i.e., part-time or full-time. Teachers from both full-time and part-time programs were included.

2. Paid and non-paid teachers. Both teachers who were paid for their services and teachers who received no financial remuneration were included.

3. The type of setting. Teachers conducting classes in correctional institutions, churches, and public school buildings were included.

4. Source of students, i.e., self-referred, referred by social agencies, such as State Employment Service of State, Welfare, and inmates in correctional

institutions. Teachers with experience in all such programs were included. (Some students were volunteers while others were under varying degrees of compulsion.)

5. The sex of teachers and students. Both male and female teachers with experience in programs involving both make and female students were included.

6. The age of teachers and students. Teachers of varying ages having experience with students of varying ages were included.

7. The ethnic and racial backgrounds of teachers and students. Teachers of various ethnic and racial backgrounds having experience with students of various ethnic and racial backgrounds were included.

The specific teachers to be interviewed from a given program were selected by the program directors. The criteria used by directors in selecting these teachers is not known, but they appeared to select from those most readily available and the teachers they felt to be best qualified.

Teacher responses to the various questions were tabulated. When considered helpful, response categories were determined and responses assigned to these categories.

Response categories such as those in Question Seven of the findings were determined by a judge after an examination of all teacher responses. These categories and the responses assigned to each were checked by a second judge. Both judges agreed on every category and on every response assignment. These two judges were also the two principal interviewers.

The following considerations serve as limiting factors for the interviews:

1. The findings of this study are dependent on the particular subjects interviewed:

(a) The qualifications of some subjects for answering certain interview items are questionable.

(b) Although a deliberate attempt was made to include teachers representing several possible significant factors in literacy education, the extent to which these subjects are representative of their larger populations cannot be known. The fact that program directors selected the specific teachers to be interviewed may be a particularly significant consideration. As previously stated, the precise basis on which their selections were made is not known.

2. The limitations of open-ended interview methodology apply to this study.

(a) The different subjects varied in their willingness to answer questions so that the findings are particularly influenced by statements of the more "talkative" subjects.

(b) The findings of this study are dependent on the particular wording of interview items and following questions. The possible affects of using different wordings or questioning techniques are not known.

3. The determination of response categories and the assignment of teacher answers to these categories reflects the thinking of the particular judges. Other judges might have assigned the responses differently or even have determined different response categories.

Structured Interviews and Testing of Students in Adult Basic and Functional Literacy Programs

Purpose of the Interviews

A fundamental prerequisite for the intelligent preparation of instructional materials is a knowledge of the persons for whom the materials are being prepared. While the literature in the field of adult basic education and interviews with program directors and others experienced in the field can provide a limited familiarity with the nature of the illiterate adult population, at least a limited first-hand experience with such persons was considered essential. The general purpose of the student interviews was to provide experience with and gather information about adult illiterates. Information sought was that which would be of use in the preparation of instructional materials and teacher training.

Areas of special concern in this study were:

1. Students' motives for learning.
2. Students' reading and writing interests.
3. Students' family, educational and vocational backgrounds.
4. Students' vocational interests and expectations.

It should be obvious that these general areas are interdependent to some extent.

Students in adult literacy classes were interviewed at their schools by members of the Missouri Vocational Literacy Research Project staff. A semi-structured open-ended type interview procedure was followed. Students were interviewed individually.

Although interviewers had a prepared outline of questions, the interviews were conducted in an informal, conversational manner. Subjects frequently anticipated questions, and it was not believed desirable, in consideration of rapport, to rigidly follow the prepared sequence of questions. The variability in students and in settings demanded flexibility in the interviewing. The specific questions asked depended in part on the nature of the particular program and student. In some instances, program directors requested that certain questions not be asked of their students. Interviewers were able to clarify answers and to probe areas of particular interest through the use of follow-up questions.

Interviews varied in length, but generally lasted about thirty minutes. Notes were taken, but no tape recordings were made of the interviews. Some of the students interviewed were also tested with a short form of the Wechsler Adult Intelligence Scale, but testing was only done after the interview was completed. This testing is discussed in the section dealing with testing.

Forty-eight adults from six different literacy programs were interviewed. Certain descriptive characteristics of these persons are reported in the findings.

Students interviewed were from the following programs:

Voluntary Improvement Program, in St. Louis, Missouri

Manpower Training Basic Education Program, in Sikeston, Missouri

Basic Adult Education Program, in Chicago, Illinois

Missouri Department of Corrections Basic Education Programs, at Moberly, Jefferson City and Algoe

These programs were selected because they and their students represent different dimensions of possible significance to adult literacy training. The following dimensions were considered.

1. The nature of the program, i.e., part-time or full-time. Students from both full-time and part-time programs were included.

2. The source of students, i.e., self-referred, referred by social agencies, such as State Employment or Welfare Services, and inmates in correctional institutions. Students from each of these sources were included. (Some students were volunteer while others were under varying degrees of compulsion.)

3. The nature of the locales in which the students reside. Students representing both urban and rural settings were included.

4. Sex. Both male and female students were included.

5. Age. Students of varying ages were included.

6. Ethnic and Racial backgrounds. Both Caucasian and Negro students were included.

The specific students to be interviewed were selected by their teachers or program administrators.

Answers given by the students were tabulated. When considered helpful, response categories were determined and responses assigned to these categories. Response categories such as those in question 12 in the findings were determined after inspection of the students responses. The determination of the response categories and then the assignment of responses to the various categories was done by a judge and re-checked by a second judge. Both judges agreed on each category and on each response assignment. These two judges were also the two principal interviewers.

Limitations of Student Interviews

1. Although a deliberate attempt was made to include students in accordance with the previously indicated dimensions, the extent to which these subjects are representative of their larger populations cannot be known. The fact that program directors and teachers selected the specific students to be interviewed may be a particularly significant consideration. Generally, teachers and directors appeared to select those of their students who they thought would be most cooperative.

2. Liminations of open-ended interview methodology apply to this study:

(a) The different subjects varied in their willingness to answer questions so that the findings are particularly influenced by statements of the more "talkative" subjects.

(b) The extent to which interests and beliefs expressed by the subjects accurately reflect the interests and beliefs actually held by the subjects is not known.

(c) The findings of this study are dependent on the particular wording of interview and follow-up questions. The possible affects of using different wordings or questioning techniques are not known.

3. For certain items, subjects responses were assigned by a judge to response categories and re-cehcked by a second judge. Other judges might have assigned responses to different response categories or even have determined different response categories.

Purpose of the Intelligence Testing

To supplement the data available on the intelligence of adult illiterates from the published literature and on-going programs, it was decided that limited additional testing would be helpful.

Thirty-four literacy students were given a short form of the Wechsler Adult Intelligence Scale by members of the Missouri Materials Development Project.

Students tested were from the following programs:

1. Sikeston, Missouri, MDTA Multi-Occupational Basic Education Program, twenty-four students.
2. St. Louis Voluntary Improvement Program, five students.
3. Chicago Adult Basic Education Program Day School, two students.
4. Missouri Vocational Literacy Research and Development Project try out students.

The specific students to be tested were selected by program administrators and teachers. This selection process certainly represents a limitation on the findings. However, the persons tested were drawn from a variety of programs, and were receiving reading instruction at levels ranging from beginning through grade level five. Subjects ranged in age from eighteen to sixty-two years. The median age was thirty-eight to forty-one years of age. Of the twenty-three men, fifteen were white and eight negro. Of the eleven women, seven were negro and four white. The small number of subjects did not justify comparisons between the races, sexes or types of programs.

The instrument used for testing consisted of the Vocabulary, Information and Similarities scales of the WAIS. This approach to testing was chosen because of the limited time available with each student and the preference for a measurement of ability on verbal tasks. Vocabulary, Information and Similarities have been shown to be the three tests which generally correlate highest with the full scale score of the WAIS. Vocabulary, Information and Similarities have also been shown to be the three verbal tests with the highest reliability (Wechsler, 3; Doppelt, 1). Also, none of these tests, vocabulary, information or similarities are timed tests. This was considered of importance in relation to the maintenance of rapport with these subjects.

Purpose of the Interest Study

The purpose of the study was to gather additional information about the vocational interest of adult illiterates. A second purpose was to investigate the advisability of using a pictorial interest inventory as compared to an inventory which was read to the students.

Design of the Interest Study

The two pictorial occupational interest inventories on the market at the present time both use drawings rather than photographs as items. These two instruments are the Geist Picture Interest Inventory (GPII) Geist, 2) which has both consumable and reusable editions, and the Picture Interest Inventory (PII) (Weingarten, 4). The majority of research related to these two instruments is presented in their respective manuals and is therefore readily available. The details of this research, therefore, will not be discussed here although brief descriptions of the instruments and certain of the findings from a recent study with Basic Education students will be presented.

The Geist Picture Interest Inventory: General Form: Male (GPII)

The G.P.I.I. consists of two parts. The first part, the actual inventory, has 113 drawings of vocational and avocational activities, and nineteen drawings of objects associated with activities. These 132 pictures are arranged in forty-four triads with separate, brief instructions for each triad. For examinees able to read, the inventory is self-administering; but for those unable to read, the instructions are read to them. Examinees select one picture in each triad according to the instructions for that triad. Responses to illustrations yield scores for the following eleven interest areas: Scale one, Persausive; Scale two, Clerical; Scale three, Mechanical; Scale four, Musical; Scale five, Scientific; Scale six, Outdoor; Scale seven, Literary; Scale eight, Computational; Scale nine, Artistic; Scale ten, Social Service, and Scale eleven, Dramatic. Raw scores are converted to normalized T scores. Separate T score norms are reported for the following groups: U.S. mainland samples: grade eight, grade nine, grade ten, grade eleven, and grade twelve; U.S. mainland sample: remedial reading grades eight and ten; U.S. mainland sample: trade school; U.S. mainland sample: university; Puerto Rican samples for grade eight, grade eleven, and grade twelve; Puerto Rican sample: trade school; University of Puerto Rico sample; Hawaiian samples: grade nine, grade ten, grade eleven, and grade twelve; Hawaiian sample: remedial reading groups; and a University of Hawaii sample. Although the GPII was developed primarily for use with males, its publishers suggest that local norms can be developed easily for females.

The second part of the GPII is a supplementary "Qualitative Check List" which is designed for use with those examinees who are able to read. The purpose of this check list is to assess the motivating forces behind the choices of occupations. Performance on this check list in no way affects scores on the occupational scales of the Inventory.

The GPII is not timed and can be either hand or machine scored.

Picture Interest Inventory (PII)

The P.I.I. consists of 159 illustrations (sketches) showing men engaged in various work activities. The inventory is divided into two parts, Part I presenting the picture stimuli in fifty-three triads to which the examinee responds in forced-choice fashion indicating both the most and least liked picture. In Part II thirty of the pictures are repeated, this time being presented individually, with the examinee indicating either "like" or "dislike" for each picture. Responses to the illustrations yield two groups of scores, Fields of Occupational interests and supplemental scales. The six field scores are: Scale one, Interpersonal Service; Scale two, Natural (Outdoor); Scale three, Mechanical; Scale four, Business; Scale five, Esthetic; and Scale six, Scientific. The three supplemental scales are: Scale seven, Verbal; Scale eight, Computational; and Scale nine, Time Perspective. Time Perspective relates to the person's willingness to engage in long-range planning and preparation.

Raw scores can be converted either to normalized standard scores or to percentile ranks. Norms are based on the inventories of 1,000 male students in junior high school, senior high school, and college. Either machine-scoring or hand-scoring stencils are available. The inventory is not timed. Its publishers recommend its use in grades seven-adult, regardless of the examinee's reading or writing ability or language comprehension. Although the pictures show men and the norms were developed on men and boys, the publishers indicate that it can also be used with girls.

In a special project done by members of the M.M.D.P., male students in the M.D.T.A. Basic Education Program at Sikeston, Missouri were randomly divided into two groups. Group I was given the G.P.I.I. and P.I.I. and then re-given these same instruments after a four week interval. Pearson product moment correlations were determined for each scale on each of the inventories. Group II was given experimental verbal forms of the G.P.I.I. and P.I.I. and then retested with these same instruments after a four week interval. These verbal forms were especially developed for the purposes of this study. The verbal forms consisted of word descriptions of activities or names of occupations depicted in the picture items. These word descriptions were based on descriptions provided by the inventory authors in their respective manuals. These verbal items were read to the subjects. All necessary instructions were read to both groups I and II.

Questionnaire Survey of Opinions of Teachers and Directors of Adult Basic Education Programs throughout the United States

Purpose of the Questionnaire Survey

A mailed teacher questionnaire survey was conducted to be used in conjunction with the teacher and student interviews. The primary purpose of the teacher questionnaire was to obtain information that would be helpful in the development of the basic reading materials and the teacher's manual. Also, information was to be obtained which would be useful in training reading teachers.

The questions were directed to the four areas of primary concern: teachers, students, programs, and materials. The basic question, relative to each area, for which answers were sought were as follows:

1. Relative to teachers:
    a. What background of teaching experience can be expected?
    b. How much preparation in the teaching of reading can be expected?
    c. Do the teachers think it is necessary to have some college level training in the teaching of reading?
2. Relative to students:
    a. To what age group should the materials be directed?
    b. Should a differentiation be made in the content with regard to sex?
    c. Does age affect motivation and progress?

d. What are the student's motivations for entering the program?

e. Should greater emphasis be placed at the basic or intermediate grade level?

f. How long, approximately, will it take an illiterate to reach the sixth grade level in reading?

g. What major handicaps in learning to read have been found?

3. Relative to program:

   a. How long should a single class period be?

   b. What size should a class be?

   c. Should testing be done prior to instruction? If testing is to be done, what type of test should be used?

   d. What is the per cent of dropout and what factors are operating effect dropouts?

4. Relative to materials:

   a. What materials are now being used? How effective are the present materials being used?

   b. How important is the content?

   c. What topics should be avoided in the content?

   d. What topics should be included in the content?

   e. How important is the use of illustrations in adult materials?

   f. Should type size be larger at first and then gradually be decreased?

   g. Should cursive or manuscript writing be taught?

The specific questions contained in the questionnaire will be presented in the section reporting the summary of findings.

In addition to the questionnaire for the teachers, a questionnaire was sent to the directors of the various programs to collect descriptive information about the programs. The opinions of the directors were sought on two questions. One question concerned the best source of teachers and the other question concerned the length of time required to raise an illiterate to the sixth grade level. The specific questions to which the directors were asked to respond will be reported in the section pertaining to the summary of findings.

Design of the Survey

Since the content of the reading materials to be developed was not to be directed to any one geographical region, the sample was taken from the country as a whole. In November, 1965, letters were sent to the State Departments of education requesting the names of on-going programs which offered reading to adults. Letters were sent to all state departments with three exceptions. The states of Michigan, Missouri, and Virginia were not included. Michigan and Missouri were not included bacause they had been utilized in the teacher interviews. Virginia was not included because a listing had been obtained through previous correspondence. Interviews had not been held in Chicago at the time of the original correspondence; therefore, Illinois was included in the mailing.

Correspondence was received from thirty-five (35) of the forty-seven (47) states to which letters were sent. Six (6) of these thirty-five (35) states did not have programs in operation at the time of correspondence. The number of states with programs was twenty-nine (29). The states with programs yielded a total of two hundred-fifty (250) programs. Letters were mailed to the directors of these programs explaining the nature of the questionnaire and soliciting their cooperation. A return card was enclosed for them to indicate whether or not they would participate and to indicate the number of literacy teachers in their programs. Returns from the program directors resulted in one hundred-ten (110) who were willing to participate. The directors indicated that there were 1,420 teachers working in these programs.

In an effort to insure representation of the United States as a whole, a stratified random sample of approximately 500 teachers was to be made. After exploring different methods of dividing the country into geographical areas, it was determined that the division used by the Bureau of Census, U.S. Department of Commerce would be as equitable as any investigated. Alaska and Hawaii were included in a tenth area rather than in the ninth Pacific Area. The states which were included in the sampling are as follows:

Area I: New England
Maine, Massachusetts, and Rhode Island

Area II: Middle Atlantic
New York and New Jersey

Area III: South Atlantic
Maryland, Virginia, West Virginia, Georgia, and Florida

Area IV: East North Central
Ohio, Indiana, Illinois, and Wisconsin

Area V: East South Central
Kentucky and Tennessee

Area VI: West North Central
Minnesota, Iowa, and North Dakota

Area VII: West South Central
Arkansas, Oklahoma, and Louisiana

Area VIII: Mountain
Colorado, New Mexico, and Nevada

Area IX: Pacific
Washington, Oregon, and California

Area X: Alaska

Those states not included either did not have on-going projects at the time of correspondence or did not reply to our initial correspondence.

A proportional random selection was made from the 1,420 teachers to insure that each area would receive a fair distribution of the questionnaire. The number of questionnaires to be sent (500) was divided by the total number of teachers (1,420) to yield a proportional percentage of 35%. This percentage was applied to the number of teachers indicated for each area to determine the number of questionnaires to be sent to a particular area.

Previously each state had been assigned a whole number; and each city with a project within that state a decimal number as a means of identification; e.g., Augusta, Maine, was 1.4. Since the names of the teachers were not available for use in the randomized selection, a number was assigned to represent each teacher in each program until all the teachers in an area had been assigned a number. This procedure is illustrated by the following example:

> Area I had a total of 74 teachers indicated, from which 26 teachers were to be picked. The city coded 1.1 had seven teachers and was assigned numbers 00 to 06. The city coded 1.2 had twenty-eight teachers and received numbers 07-34. This procedure was continued until all 74 teachers had received a number. A table of random numbers was used at this point to select 26 numbers. This yielded the number of questionnaires to be sent to each program in Area I.

This procedure was repeated for each area until 500 selections had been made, with one exception. A total of eleven teachers were reported for the state of Alaska. It was decided that eleven questionnaires would be sent to encourage sufficient returns.

The randomized selection of the number of questionnaires to be send out, resulted in 13 of the original programs not being selected. Questionnaires were then sent to 97 programs in 29 states.

It was decided that the most meaningful information would be obtained from those teachers who were thought to be the best qualified literacy teachers in each project. The teacher questionnaires, along with the director's questionnaire were mailed to the director with the following instruction: Please distribute the

the enclosed questionnaires to the reading teachers you think are the most qualified teachers. This in effect limited the amount of random selection that was made at the point of distribution, but for the primary purpose of the survey it appeared to be the most desirable alternative.

Materials Development Phase

The basic design of the materials development phase provided for the development of an instructional program involving use of materials and methods through which illiterate and semi literate adults could be taught to read, write, and spell.

The initial teaching alphabet and traditional orthography were planned to be used concurrently in the materials for several purposes. First, i.t.a. would minimize difficulties encountered by the student with sound-symbol (phomeme-grapheme) relationships so commonly associated with learning to read in the initial stages with traditional orthography. Secondly, when i.t.a. was used with children some preliminary findings of research in England indicated that (1) for the bright child the basic word recognition program can be carried out in from 3 to 4 months; (2) by the time the child has mastered the 44 sound-symbols he has word recognition competency equivalent to that of a child reading on the upper third grade level; (3) with children having a good background of experience, 40 per cent of them have achieved third reader word recognition level by the eighth month of school. From these preliminary findings, it is considered reasonable that adults could learn to read even more rapidly and successfully than children. Third, the uniqueness of i.t.a. when contrasted with t.o. would likely appeal to the adult learner. Fourth, evidence indicated that transfer from i.t.a. to t.o. could be rapidly accomplished and thereby increase the total progress from beginning to functional reading proficiency.

The content planned for use throughout the materials was intended to represent adult needs, interests, and concerns of daily work and life. Therefore, the materials would present a strong vocational-daily living content geared to the adult in the illiterate, functionally illiterate category. Reviews of literature, discussions with adult teachers and educators and students indicated that available materials were not appropriate for adults in terms of subject matter, motivational appeal, language, and the like. Therefore, careful attention would be paid to those things which would render the materials most acceptable to teachers and adults themselves.

The plan for materials development included the following:

1. Review of the literature as described in phase one.

2. Consultation with authorities in reading, adult education, and i.t.a.

3. Surveys by questionnaire and interviews with teachers and illiterate or functionally illiterate students enrolled in adult classes.

4. Preliminary tryouts of the developing materials with illiterate adults who volunteered their time to assist in the project.

5. Content selection and development starting with familiar and common settings and conditions such as the family, the home, work, recreation and the like. Since selection of content will determine the vocabulary in large part, it was assumed that if the content is functional the vocabulary will be functional.

6. Vocabulary development in the materials included the areas of vocabulary selection, vocabulary control, symbol introduction, transfer, handwriting, spelling, dictionary usage, teachers manuals, student exercises, and content comprehension. Each of these concerns was based on carefully established assumptions and followed conclusions reached from research.

7. Vocabulary selection--It is necessary to teach a core consisting of common words (and, but, is, the etc.). The specialized vocabulary would be kept

functional because the content of the materials was to be functional. The lesson content was the first consideration and specific vocabulary introduced was determined by the content of the story used in the lesson.

8. Vocabulary control--The number of new words introduced in any lesson was controlled. To provide appropriate practice, repetitions of new words were controlled. Control was diminished as progress was made level-by-level as skills had been mastered. The skill mastery thus enabling the student to "attack" an increasing number of new words on his own initiative. Therefore, the teacher would find it necessary to introduce fewer and fewer words.

9. Symbol introduction--When a sufficient number of words had been introduced which included a particular symbol in its initial position, the symbol was then introduced. Some choice would be available on the order of introduction of symbols. Thus, the confusion often encountered between b and d, ʈh and ŧh, etc. could be avoided. No more than four symbols would be introduced in any one lesson and in the early stages only two symbols would be introduced at one time.

10. Transfer--Several considerations were given to the concept of transfer and its implementation. First, with the adult it would be obvious that i.t.a. was not the type of alphabet he had seen in signs, newspapers, etc. Therefore, he would logically seek to read words written in the traditional alphabet. To maintain motivation, continuous transfer from i.t.a. to would be provided for. The emphasis on transfer to t.o. would be minimal and voluntary at the outset and would increase in tempo until complete transfer had been accomplished at the end of Level 3 of the materials. To accomplish the transfer the device of providing lesson or story written in i.t.a. on one page of the materials and the same lesson in t.o. on the facing page. The plan of teaching using the facing page concept would follow a sequence of teaching acts--

Level 1

1. Students with the teacher's assistance would reread the lesson stories originally read in i.t.a.

2. Words which were similar in i.t.a. and t.o. would be highlighted.

Level 2

1. Review stories would be used for reading in t.o.

2. Students would read the lesson story in i.t.a. and the same day read the same story in t.o.

3. Students would read the lesson story in i.t.a. on one day and then read the lesson story in t.o. the succeeding day.

Level 3

1. Lesson story is read in t.o. first. The i.t.a. page is used as an aid only facing pages are reversed. The new lesson stories contain no new words.

2. Transfer patterns are taught.

3. i.t.a. lesson stories are discontinued. New words in t.o. have i.t.a. spellings provided as an aid to the student.

Teaching method provides flexibility to allow for individual differences among students with respect to their rate of transfer.

Handwriting.- The students would first be taught to produce the i.t.a. symbols as reinforcement to learning the symbols. Handwriting and personal writing was not planned until the students had achieved sufficient t.o. knowledge. There was little need for learning to write in i.t.a. since the student would not use this alphabet as a mode of communication. Therefore, handwriting practically would be taken up after the student had begun to read in t.o. The functional devices by which the student would be taught to write would include writing letters to friends, filling out application forms, making notes, and the like.

Spelling.- In the later stages of level one of the materials spelling words were introduced. Since i.t.a. was the central focus of the instructional pattern and since learning to spell in i.t.a. would not be functional later, only those words were included in spelling exercises which had identical or nearly identical spellings in both t.o. and i.t.a. Spelling would be emphasized heavily in levels 4, 5, and 6 of the materials.

Dictionary work.- Dictionary work would be stressed in levels 4, 5, and 6. It would be taught as an aid to improving word attack skills.

Teacher's Manual.- Teachers manuals were to be developed for each level of instruction. These manuals were to be as complete in every detail as possible and thoroughness would be exercised as indicated by research information collected. Furthermore, since i.t.a. was to be used in the materials, in order that teachers who were unfamiliar or who had only limited experience with i.t.a. could effectively utilize the materials the manuals which accompanied the levels using i.t.a. would be particularly detailed and thorough.

Special exercises.- Special exercises were to be developed for readiness development. It was anticipated that there would be necessity for providing exercises in auditory and visual discrimination as well as exercises which would provide practice of the basic strokes in writing. Further exercises would be provided to aid in and reinforce the learning of symbols and structural skills such as required in learning the endings -ing, s, and ed. In levels 2 and 3 after the symbols had been taught considerable effort would be directed toward developing comprehension and interpretation skills. After the lesson had been read, discussion would ensue which would guide the student toward understanding of what had been read and encourage and assist him in interpretation of the material. The content would be of such a level of interest to adults that it would provide basic motivation for such discussions.

Evaluation Phase

Field Trials of the Adult Vocational Literacy Materials

Purpose.- The materials evaluation phase of the project was designed to test the effectiveness of the instructional materials and to ascertain where strengths and weaknesses might exist in the materials themselves and in the instructional process while they were being used to teach adult illiterates to read. To accomplish this task, three experimental reading classes of adult illiterates were established in the central Missouri area. Due to the shortage of budget and time only the first three levels of the instructional materials were scheduled to be used and evaluated. It is in these levels that the student is introduced to the Initial Teaching Alphabet, develops fluency in reading i.t.a. and in the process transfers from reading in i.t.a. to reading in the traditional alphabet. The development of these materials has been discussed on pages of this report.

Design of the Field Tryouts.- Experimental classes were conducted from January 30 to June 15, 1967 in Columbia, Jefferson City, and Moberly, Missouri. Adult illiterate students for the Columbia class were largely recruited with the assistance of the Mid-Missouri Human Development Corporation. The Jefferson City students were recruited by the Missouri State Employment Security Office and the Univer;ity of Missouri Extension Division Office serving Cole County. Students in the Moberly Class were inmates in the Missouri Training Center for Men (The Medium Security Prison). A total of 34 adult students were enrolled in the classes, Jefferson City (15), Columbia (10), and Moberly (9). At the end of the period of the field trials 18 of the original number of students remained in the programs. Drop-out for personal and family reasons accounted for the attrition in the Columbia and Jefferson City classes. Transfers accounted for the attrition in the Class at the Moberly medium security prison.

Methods used in Evaluation of the Materials.- The methods utilized in the process of evaluating the materials included pre- and post-instruction reading tests, and anecdotal records of class experience with the materials made by the teachers.

Pre- and Post-Tests.- The initial sessions of the classes were used as testing sessions. The word meaning, paragraph meaning, spelling and word-study skills sub-tests of the Stanford Achievement Test (Form W), Primary II Battery were used. An abbreviated form of the Wechsler Adult Intelligence Scale (Information, Similarities, and Vocabulary Sub-Tests) was used to derive an estimated verbal Intelligence Quotient Score. To measure status in handwriting the students were directed to write or print, both upper and lower case letters of as much of the alphabet as they knew. These three measures constituted the pre-test schema. Final sessions of the classes were used as post-testing sessions. The word meaning, paragraph meaning, spelling and word study skills sub-tests of the Stanford Achievement Test (Form Y), Primary II Battery were used. The gains made by students between the pre- and post-test were analyzed statistically using analysis of variance and the "t" test for the significance of the difference between means. The results of these analyses are presented in the section of this report dealing with results of the study.

Anecdotal Records.- Recurring teacher criticisms recorded in the anecdotal records were to be used as subjective measures of the effectiveness of the materials, including both the instructional booklets and the teacher's manuals. The anecdotal records focused upon the teacher's criticisms of the vocabulary load per lesson, the appropriateness of the content, method of spelling instruction; method of instruction used to transfer the student from the initial teaching alphabet to traditional orthography; the method of teaching structural skills - inflectional endings, blends, etc.-; the value of the worksheets accompanying each of the levels;

the design for teaching handwriting; the general format and teaching suggestions outlined in the teaching manuals; and special emphasis on directed reading, comprehension, and interpretation. The teachers of the classes were instructed to prepare anecdotal records for each class and write them up after each class session in order that a complete record of their evaluations of the materials would be available. The findings from the anecdotal recordings are presented in the section of this report which presents the results of the project.

Teachers.- The teachers of the three classes were two men who had been research associates who worked on the Missouri Adult Vocational Literacy Materials Development Project and a man who was a member of the teaching staff of the Missouri Department of Corrections. The instructor of the Columbia, Missouri Class had been a member of the project staff since June 1, 1966. He held Master's and Bachelor's Degrees from the University of Missouri. He had taught English in the public schools of Iowa for several years. He was experienced in the teaching of reading to high school age children. The instructor of the Jefferson City, Missouri class had been a member of the project staff since June 1, 1965. He held Bachelor's and Master's Degrees from Southeast Missouri State College and Teachers College, Columbia University respectively. He had six years experience as a high school social science teacher and guidance counselor. He had no special preparation as a teacher of reading. The instructor of the class held in the Medium Security Prison at Moberly, Missouri was a regular staff teacher for the Education Department of the Missouri Division of Corrections. He held a Bachelor's Degree from Lincoln University, Jefferson City, Missouri. He had had experience in teaching adults at the basic and secondary school levels.

Class Meetings.- The Columbia, Missouri class met one night each week for sessions varying in time from one and one-half to two hours. Between the pre- and post-testing sessions the class received approximately twenty-five hours of reading instruction. All of the instructional sessions were conducted in the offices of the Missouri Adult Vocational Literacy Materials Development Project on the University campus. The Jefferson City, Missouri class sessions were held each Monday and Thursday evening during the try-out period. Between the pre- and post-testing sessions, the class received approximately 90 hours of reading instruction. The Moberly Class met regularly at the same hour each day, Monday through Thursday at the Dotson School (Primary Unit) at the Medium Security Prison. Between the pre- and post-testing sessions the class received approsimately 75 hours of instruction.

Sample Description

Columbia Class.- The students who made up the Columbia class were adult residents of Boone County, ranging from 42-70 years of age. None had progressed beyond the seventh grade; 3.9 was the mean previous grade completed.

An estimated verbal intelligence quotient for the students was obtained by administering three subtests of the Wechsler Adult Intelligence Survey--Information, Vocabulary and Similarities. The estimated verbal IQ's for the Columbia Class ranged from 62-89, 76 being the mean IQ.

Only one of the seven adults was employed, her job being that of a laundry-worker in the county hospital. The other class members were either retired, working as housewives or receiving welfare monies.

Table 1
Description of the Columbia Class

Name	Previous Grade Completed	Age	Sex	Race	Estimated IQ	Socio-Economic Background	Occupation
M.J.	3	52	F	N	72	Total family income per year is $2,400.	Laundry worker
L.H.	7	70	F	N	87	Member of Star Route Cooperative, member of Community Work Shop Board, and helps to teach a sewing class in her home. Total family income is $1,836 per year.	Housewife
T.H.	3	70	M	N	89	Active member of Star Route Cooperative Council, and will be daily supervisor of Vista Volunteers, plus he is marketing representative for the Cooperative. He and his wife draw Social Security and their income per year is $1,836.	Retired Farmer
R.S.	3	44	F	W	62	Total family income per year is $1,020.	Unemployed
B.W.	7	46	F	W	74	Member of Route Cooperative, plus member of sewing class held at Mrs. H. Has high blood pressure and is overweight--under doctor's care. Total family income is $1,560 per year.	Housewife
E.W.	0	42	M	W	70	Has leakage of heart and weakness in his legs, which hinders his walking. Both he and Mrs. W. receive general relief checks. Total family income is $1,560 per year. Member of Route Cooperative Council.	Unemployed

Students for the experimental class were recruited by the efforts of the Human Development Association volunteer workers in Boone County. Two of these volunteer workers also provided transportation for two of the class members.

Jefferson City Class.- Students for the Jefferson City, Missouri, class were recruited with the assistance of the Missouri State Employees Security Commission in Jefferson City and the office of the University of Missouri Cole County Extension director. The ages of the five students ranged from 14-48, the mean being 33. One member of the class was a housewife; the others were unemployed.

The estimated verbal IQ range of this class was 54-81 with a mean IQ of 67.

Table 2
Description of the Jefferson City Class

Name	Previous Grade Completed	Age	Sex	Race	Estimated IQ	Socio-Economic Background	Occupation
G.C.	2	44	F	W	66	Family above poverty level. Have moved out of public housing. Well dressed and groomed.	None
W.B.	7	24	F	W	54	Draws ADC for child. No other income. Caseworker felt just getting her out of the house and into a class was an accomplishment. He said she was withdrawing and has a defeated attitude.	Unemployed
M.L.	8	14	F	N			
J.A.		48	F	N	68	Limited income. Dependent on other working members of family.	Unemployed
R.A.	2	29	M	W	81	Epeleptic under drug control. Has no trouble. Has had auto body repair training. Feels lack of education not only prevents being hired but ability to keep a job. Attitude and outlook appear to have improved since starting the class.	Unemployed

Moberly Class.- All of the students in the Moberly experimental group were inmates in the Missouri State Training Center for Men-Moberly, a medium security prison. The seven inmates ranged from 24-54 years of age; Mean 44. Only four of the men had previously attended school. two as far as the eighth grade, one the fourth and another the third.

Estimated IQ's for the Moberly class were obtained by the abbreviated form of the Wechsler Adult Intelligence Scale. These estimated IQ's ranged from 56-87, mean 66.

Table 3
Description of the Moberly Class

Name	Previous Grade Completed	Age	Sex	Race	Estimated IQ	Socio-Economic Background	Occupation
J.A.	8	24	M	W	87	Very poor	Inmate
S.M.	0	53	M	N	72	Middle poor	Inmate
W.P.	4	44	M	N	56	Poor	Inmate
O.G.	0	43	M	N	58	Poor	Inmate
R.B.	3	34	M	N	58	Poor	Inmate
E.O.	0	34	M	N	59	Sharecroppers	Inmate
B.L.	8	54	M	N	72	Poor	Inmate

Sample Analysis.- An analysis of variance was done on the estimated verbal intelligence scores and the pre-test scores to determine whether the students came from the same population. Table 4 presents the data for the estimated verbal intelligence scores. Table 5 presents the data for the pre-test.

Table 4
Distribution of Estimated I.Q.'s in the Sample Classes

Columbia	Jefferson City*	Moberly
72	66	87
87	54	72
89	68	56
62	81	58
74	269	58
70	N=4	59
454		76
N=6		466
		N=7

Total = 1189

Source of Variation	df	SS	MS	F	
Among	2	304.15	152.075	1.21	N.S.
Within	14	1,760.79	125.771		
Total					

*The age of the girl 14 years of age was not known until the night of testing. Time did not permit a subsequent testing with a comparable test.

The data indicates there was no significant difference among the groups with reference to intelligence.

Table 5
Pretest Scores of Word Meaning, Paragraph Meaning,
Spelling and Word Study Skills of the Sample Classes

Word Meaning

C.	J.C.	M.
1.8	1.8	2.6
2.8	1.8	1.8
1.7	1.8	1.7
2.1	2.0	1.3
3.7	1.0	1.3
1.2	7.6	1.0
13.3		1.0
		10.7

Source	df	SS	MS	F
Among	2	1.91	.955	2.09 NS
Within	15	6.87	.458	
Total	17	8.78		

Paragraph Meaning

C.	J.C.	M.
1.6	1.0	2.1
1.8	2.2	1.7
1.0	3.6	1.7
1.9	1.9	1.0
3.0	1.0	1.1
1.0	9.7	1.0
10.3		1.0
		9.6

Source	df	SS	MS	F
Among	2	.99	.495	.87 NS
Within	15	8.55	.57	
Total	17	9.54		

Spelling

C.	J.C.	M.
3.0	1.0	2.4
4.8	1.9	1.5
2.2	3.9	2.4
4.0	2.3	1.3
3.5	1.0	2.5
2.0	10.1	1.0
19.5		1.0
		12.1

Source	df	SS	MS	F
Among	2	8.09	4.045	4.26*
Within	15	14.25	.95	
Total	17	22.34		

Word Study Skills

C.	J.C.	M.
1.0	1.6	1.6
1.2	1.3	1.1
1.0	3.1	1.0
1.0	1.0	1.0
1.2	1.4	1.0
1.0	8.4	1.0
6.4		1.0
		7.7

Source	df	SS	MS	F
Among	2	1.28	.64	3.20 NS
Within	15	3.06	.20	
Total	17	4.34		

*Significant at the .05 level.

The data give evidence that on three of the four sub-tests, Word Meaning, Paragraph Meaning, and Word Study Skills, there were no significant difference among the groups. There was evidence of a significant difference at the .05 level with the Columbia Class having the highest pre-test scores in spelling.

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CHAPTER III

RESULTS OF THE PROJECT

Introduction

The results of the research phase of the project consist of five aspects. The findings from a review of the literature pertaining to adult literacy education, adult functional literacy education, social and economic characteristics of adult illiterates, racial and ethnic characteristics, intellectual potential, levels of literacy, vocational orientation, aptitudes and interests, geographical distribution, motivational characteristics and available adult instructional materials are presented. Consultations and interviews with individuals who were informed relative to adult basic education and adults who were undereducated are reported. The results of structured interviews with teachers of adult basic education classes are reported. Interviews with students in adult basic literacy education programs have been analyzed and are reported. The findings from a questionnaire sent to teachers and directors of adult basic education programs throughout the United States are presented.

The results of the materials development phase consist of the materials developed and a brief description of the method of development. The findings of the research phase of the project contain the basic data utilized in the development of the materials.

The results of the field testing phase are presented as a final section in the chapter and pertain to the effectiveness of the materials when utilized in practical teaching situations with classes of adult students who had need of basic education in reading, writing, and spelling instruction.

REVIEW OF THE LITERATURE

Definitions and Demographic Characteristics

Introduction

Whenever a project is undertaken involving the preparation of materials designed to provide instruction in the language arts, several very basic questions have to be answered. One such important consideration concerns determining the nature of the population for whom the materials are prepared. The content to be included in the reading materials, for example, will be directly affected by what is known about the population.

Since the Missouri Adult Vocational Literacy Materials Development Project (MMDP) had as its primary purpose the development of a set of instructional materials suitable for use with under-educated adults, a detailed picture of this particular group was the goal. It was necessary to have data on such characteristics as the age, sex, race, and geographic distribution of the adult illiterates in this country.

The purpose of this section then is to review the available literature pertaining to these characteristics. Also discussed will be important preliminary topics such as the various definitions of illiteracy that have been set forth and the criteria that have been used in studies of adult illiteracy.

Definitions of Adult Illiteracy

Before attempting to describe in any detail the characteristics of the adult illiterates some definition of terms must be made. The literature in this area is replete with such terms as total illiterate, functional illiterate, vocational illiterate, semi-illiterate, near illiterate. How adult illiteracy is defined will determine to a great extent what will be concluded relative to the extent of the problem and the characteristics of the population.

The term "adult" is important. Psychologists and sociologists have theorized for years about the criteria which should be used to ascertain when one has reached adult status. It is not within the scope of this chapter to discuss these various theories and postulates, but many of the ideas center around the concept of independence. Following this reasoning, if a person cannot read sufficiently well to allow him to independently further his knowledge and carry on such societal activities as "intelligent" voting, then he perhaps should not be considered an adult. To carry this argument to its extreme, there cannot be such a person as an "adult illiterate." It is a confusion of terms.

The most popular and perhaps the crudest criterion for adulthood that has been used is chronological age. Legal definitions of adulthood use this criterion. If chronological age could be accepted as the most practical solution to the definition problem, confusion still remains in the literature. For example, in some reports on the extent of adult illiteracy in this country, the U.S. Census has included all people 14 years and over while other reports have included data on the population 25 years and over. Lorge (8) has discussed the problem involved in making international comparisons relative to the extent of illiteracy. He has suggested that 18 years of age be the lower limit for adult status. Certainly, one must be cautious and look very carefully at any reports concerning data on illiteracy to ascertain what age levels were considered as adult.

Then there is the problem of the term "illiteracy." When is a person "illiterate?" Some writers have attempted to define "illiteracy" as the "inability to read or write." Ginzberg and Bray (6) have raised a serious question about this definition. Does this mean the ability to read and write in any language? If a non-English speaking person comes to this country being able to read and write his native language, should he not be considered an illiterate as far as this country is concerned?

The recommended definition of literacy posed by the United Nations Population Commission (Lorge, 8) is "the ability to read and write a simple message in any one language." This definition can be criticized on the same grounds as stated above. In addition, one has the further problem of deciding what a "simple message" is and when one has read or written such a message satisfactorily.

Lorge (8) concluded that there had been no general agreement on a definition of illiteracy. He felt that the fundamental cause of this lack of agreement had been the difficulty in reconciling various concepts of literacy. As he stated: "it is logical to consider people illiterates only when they have absolutely no knowledge of any form of written expression. Above this level there is a continuous range of literacy up to the ability of the most highly educated individual." In other words, one may be able to define total illiteracy but there are many people who can perhaps read and write some but yet not well enough to function effectively in our society. Where does one draw this line? Ginzberg and Bray (6) have raised this same point when they asked: "Is the ability to recognize a few words such as "men", "women", "danger", "fire", to be equated with a knowledge of reading? Further, is the ability to write hesitantly one's one name and address and a few additional words to be considered a minimum knowledge of writing?"

The terms "functional illiteracy" and "functional illiterate" have evolved from discussions of the relative nature of illiteracy and literacy. Lorge (8) has defined the term "functional literacy" as "that level of literacy which is sufficient to allow the individual, if necessary on his own, to extend his range of knowledge." A similar attempt at a comprehensive definition is one posed by the United Nations Committee on Experts on Standardization of Educational Statistics (Lorge, 8). They state that "a person is literate when he has acquired the essential knowledge and skills which enable him to engage in all those activities in which literacy is required for effective functioning in his group and community and whose attainments in reading, writing and arithmetic make it possible for him to continue to use these skills toward his own and the communities' development."

The foregoing definitions provide a general reference, but the problem still remains of translating the definitions into specific measurable behaviors. How can one determine when the objectives stated in the definitions have been reached? Is it possible to decide on a certain achievement test score and the number of years completed in school as criteria for the dividing line between illiteracy and literacy? What criteria have been used?

Criteria for Determining Illiteracy

The most obvious way to determine who are the adult illiterates and how many there are would be to administer some type of achievment test and decide at what cut-off point would the performance on the instrument constitute literacy. All those individuals falling below the cut-off point would be considered illiterate. A survey of the adult population would be a major undertaking and even if feasible would be hampered by the lack of suitable measuring instruments. What testing that has been done in literacy programs has been carried out through the use of standardized tests which have only children's norms, and thus the results have doubtful validity.

Another approach is simply to survey the adult population and ask people directly whether they can read and write. Up to 1940, this was the approach used in the U.S. Census. The problem is, of course, whether the questions will be answered truthfully. Also, another variable is what constitutes ability to read and write in the minds of the interviewers.

A third, and most commonly used, criterion is the years of school completed. Ginzberg and Bray (6) described the special study of the Census Bureau where is was found that of those individuals who had completed four years of schooling, nineteen out of twenty were literate. The conclusion was that "at first approximation all individuals who had completed more than four years of schooling could be defined as literate and those with less than five years of schooling could be called 'functional illiterates'". Thus the decision was made for the 1940 Census to abandon the direct question approach and change to questions concerning the number of years of school completed. Such special studies have been replicated throughout the years and the same general conclusions have been drawn. In a 1953 report, (Bureau of the Census: 1953), the statement is made that "there is a well-established pattern in the general relationship between grade of school completed and illiteracy for the population as a whole."

There is, however, a possible serious limitation to these studies. The procedure was simply to ask all those people who had completed less than five years of school if they could read and write. Thus the entire procedure is again limited by the weaknesses of the direct question approach.

However, the years of school completed criterion has been generally accepted as the best index of illiteracy available. Brunner (4) flatly states that "now we know that the best single index of reading ability is grade of school completed, the correlation being about +.70". That statement is perhaps an over-exaggeration since a number of people would maintain that the best single index of reading ability is observed behavior in a reading situation. In the light of evidence to be presented later in this chapter, it may be that Brunner has been misleading and has misrepresented the situation as it really exists.

Lorge (8) spoke of the number of years of school completed criterion as "a good approximation to a fixed point on the literacy scale." There is now some evidence available in the literature which indicates that using this criterion may result in an under-estimation of the problem.

Brooks (2) conducted a survey in the Woodlawn area of Chicago, Illinois for the Illinois Department of Public Aid. The sample included 680 persons who were receiving some type of welfare support. Information was available on the reported number of years of school completed, and the New Stanford Reading Test for Grades 2 - 9 was administered to the 680 people. Table 6 contains the data from this portion of the survey.

In the total sample, there were 45 people or 6.6 per cent who had completed less than five years of schooling and thus would be considered functional illiterates according to grade placement. The average educational level by the grade of school completed for the 680 people was 8.8 years. However, when the actual achievement levels were inspected, 345 people or 50.7 per cent achieved less than the fifth grade, and the average achievement was 5.9. At no grade did the average achievement measure up to the reported grade completed.

Brooks (3) also conducted a similar study in East St. Louis, Illinois and the relevant data is presented in Table 7. The sample included 777 recipients of welfare. Using years completed in school as an index, 17.5 per cent were functionally illiterate. Using the test data as the index, 457 people or 58.8 per cent were unable to reach the 6.0 grade level. The data in Table 7 indicate that while the average achievement tended to increase as the years in school completed increased, the average achievement never corresponded to the specific number of years completed. The conclusion of this aspect of the survey was as follows: "A great percentage of persons who completed either the fifth, sixth or seventh grades were unable to show achievement functioning levels beyond the completed fifth grade level. In addition, a great percentage of persons who completed elementary school or higher - - a level at which minimum literacy skills should have been mastered -- were unable to function beyond the completed fifth grade

Table 6

East St. Louis Data Regarding the Relationship Between Years of School Completed and Achievement Testing for 777 Welfare Recipients

Reported Grade Completed	N Reporting	%	Range of Achievement Scores	Average Achievement Score for Reported Grade Completed
All grades	777	100.0	0-10.0	5.10
No Schooling	18	2.3	0-4.9	.25
Grade 1	11	1.4	0-2.9	.25
Grade 2	33	4.2	0-9.9	1.08
Grade 3	37	4.8	0-6.9	1.81
Grade 4	37	4.8	0-5.9	2.28
Grade 5	57	7.3	0-10.0	3.54
Grade 6	51	6.6	0-10.0	4.34
Grade 7	87	11.2	0-10.0	4.85
Grade 8	132	17.0	0-10.0	5.61
Grade 9	83	10.7	2.6-10.0	6.53
Grade 10	87	11.2	2.6-10.0	6.59
Grade 11	60	7.7	2.0-10.0	6.78
Grade 12	72	9.3	3.0-10.0	7.72
Grade 13	7	.9	5.0-10.0	8.54
Grade 14	2	.2	7.0-7.9	7.45
Ungraded	3	.4	0-7.9	2.48

Table 7
Chicago Data Regarding the Relationship Between Years of School Completed and Achievement Testing for 680 Welfare Recipients

Reported Grade Completed	Number Reporting	Range of Achievement Scores	Average Achievement for Reported Grade
All grades	680	0-10.0	5.9
Ungraded School	2	0	0
No Schooling	4	0	0
Grade 1	2	0	0
Grade 2	14	0-5.9	1.13
Grade 3	11	0-4.9	1.84
Grade 4	14	0-6.9	3.98
Grade 5	23	0-7.9	3.36
Grade 6	36	0-10.0	3.90
Grade 7	70	0-9.9	4.62
Grade 8	112	0-10.0	5.35
Grade 9	103	2.6-10.0	6.41
Grade 10	116	0-10.0	7.12
Grade 11	86	3.0-10.0	7.18
Grade 12	79	3.0-10.0	7.51
Grade 13	5	6.0-9.9	8.05
Grade 14	1	8.45	8.45
Grade 15	1	9.45	9.45
Grade 16	1	9.45	9.45

level. Both facts together present the greatest evidence that the educational levels for this sample were not accurate predictors of achievement levels."

Further evidence of the discrepancy between number of years of school completed and measured reading achievement is presented in Table 8. A Manpower Training Project conducted by the Tuskegee Institute (Torrence, 10) included 180 trainees. Table 8 presents the distribution of the professed years of school completed and the Gray Oral Reading Paragraphs scores for the 180 subjects. It can be seen that 158 individuals reported having completed six or more years in school while only 51 individuals actually achieved a sixth grade level or above on the reading test.

Goldberg (7) reported data based on testing and interviewing conducted at the Army Induction Centers during December, 1942. The data indicated that of the 17,161 men found to be illiterate through testing procedures, 1,848 or 10.7 per cent, had completed five or more years of school. Goldberg concluded: "The Army data demonstrates that the highest school grade reported as having been completed by individuals often does not give a clue to their level of actual educational accomplishment."

Further data to support the discrepancy between years of school completed and tested achievement may be found in a survey conducted in Texas (Adair, 1). Table 9 presents data gathered from 889 inmates of the Texas Prison System. The standardized reading test used was not clearly specified but in other aspects of the survey, the Gray-Votaw-Rogers test was used. The information on years of school completed was obtained by a questionnaire approach. There were 154 individuals who reported they had gone to school five years or less but there were 690 of the total of 889 inmates who achieved fifth grade level or below on the achievement test. It was concluded in this report: "These figures indicate those reporting either had education of inferior quality, were weak students, or misrepresented the grade level achieved."

Table 8
Tuskegee Institute Data Regarding the Relationship Between Years of School Completed and Achievement Testing for 180 Trainees

N of Trainees	Professed Grade Completed	N of Trainees	Gray Oral Reading Test Score
4	12+	9	12+
29	12	6	12
17	11	6	11
25	10	2	10
19	9	6	9
29	8	3	8
13	7	5	7
22	6	14	6
10	5	17	5
7	4	26	4
3	3	24	3
2	2	28	2
0	1	23	1
0	0	3	0
0	#	9	#
180		180	

Table 9
Grade Level Reached and Grade Achievement Level of 889 Inmates Texas Prison: 1964

Highest Grade Reached in School Before Arrest or Confinement	Test Scores													
	0	1	2	3	4	5	6	7	8	9	10	11	12	T
0	22													22
1	10													10
2	20													20
3	37													37
4	33				2							1		36
5	24			4		1								29
6	32			14										46
7	37			27	28	9	1							102
8	22			25	29	27	6							109
9	21			22	26	39	27	4	1					140
10	13			13	25	28	18	28	4					129
11	7			8	8	44	9	24	10	4				114
12	2			8	10	13	16	21	9	15	1			95
Total	280	0	0	121	128	161	77	77	24	19	1	1	0	889

The last bit of evidence on this question was provided by the Missouri State Prison System (1966). In Table 10 is presented data for 53 prison inmates who were administered the Stanford Achievement Test and who scored at or below the 6.0 grade level on the reading section. Verified information was then collected as to the actual number of years of school completed by each of the 53 men.

All of these 53 inmates had scored below the 6.0 level on the test but the average number of years of school completed was 8.08. In fact, 49 of the 53 men had completed five or more years of school.

Ginzberg and Bray (6) have pointed out a number of possible reasons for the observed discrepancy between illiteracy as determined by the number of years of school completed and illiteracy as determined by some type of achievement test. Among the reasons cited were the differences among states as to what constitutes a school year, variations that would exist among schools in the quality of instruction and the practice of social promotion. "Clearly it is quite important whether the term, (completed four years of schooling), means that the individual actually acquired the standard amount of knowledge and competence to admit him to the fifth grade, or whether he remained in school for a four year period but absorbed little from this experience."

It would appear then from the evidence presented that one can look with some scepticism at such a statement as the following made in a U.S. Census Report (1953): "There is a well established pattern in the general relationship between grade of school completed and illiteracy for the population as a whole."

Demographic Information Concerning Adult Illiteracy

Even though the evidence presented in the previous section indicate some serious weaknesses in using years of school completed as an accurate gauge of illiteracy, one is nevertheless forced in the absence of other available data to

Table 10
Missouri Prison Data Regarding the Relationship Between Years of School Completed and Achievement Scores for 53 Inmates

Inmate	Grade Completed	Achievement Test Score
1	3	4.3
2	7	4.5
3	6	5.9
4	5	3.7
5	12	5.2
6	8	5.6
7	6	5.3
8	9	3.8
9	12	3.8
10	8	4.4
11	10	5.5
12	8	5.0
13	9	4.6
14	8	4.0
15	5	5.2
16	9	4.9
17	10	5.0
18	10	5.9
19	9	4.5
20	9	4.9
21	8	6.0
22	8	4.9
23	8	6.0
24	7	5.8
25	8	4.5
26	8	5.6
27	11	5.7
28	8	5.6
29	4	3.8
30	3	6.0
31	9	4.6
32	7	4.1
33	8	5.4
34	10	5.9
35	8	5.2
36	4	4.6
37	8	5.0
38	7	4.4
39	10	5.1
40	8	5.3
41	9	4.4
42	12	5.5
43	7	3.6
44	11	6.0
45	7	5.3
46	11	5.2
47	10	5.4
48	7	5.6
49	11	5.8
50	7	4.0
51	5	4.3
52	7	5.3
53	9	5.6

make use of such studies as those of the U.S. Census which have used this criterion. In the following sections, the summary data presented is based on the reports of the 1960 Census dealing with Educational Attainment.

Age.- Table 11 presents data for the population 14 years old and over who had attended school less than five years. It would appear from this data that the preponderance of illiteracy is among the older people in our population--particularly those 45 and older. One must, however, keep in mind the criterion that was used to determine illiteracy. It is true that attendance laws and other factors cause youngsters to remain in school longer than in past years but the quality of their school experiences and what the youngsters gain from remaining in school longer are uncontrolled variables. Mass testing of the adult population might demonstrate that one could not generalize that the largest numbers of illiterates fall into the older age categories.

Table 11
Census Data in Respect to Age Categories
For Adult Illiterates

Age Category		Numbers	Per Cent of Total
14-24		588,009	5
25-34		709,084	8
35-44		1,136,896	12
45-54		1,387,407	16
55-64		1,841,116	21
65-74		2,108,859	24
75+		1,219,518	14
	Total	8,890,889	100%

Sex.- Considering the population as those 14 years and older who had gone to school less than five years, 55 per cent of the 8,890,889 illiterates were male. Thus there appears to be a sex difference in respect to illiteracy but certainly in planning any reading content for this group, the interests of women should be considered.

Place of Residence.- The census data indicate that over 60 per cent of the adult illiterates live in some type of urban setting. Again it should be noted that a considerable number of illiterates do reside in rural settings.

Race.- Regarding the racial backgrounds of the adult illiterates as defined by the census, 25 per cent of the group were negro. One often sees reports indicating that the typical illiterate is negro. It is true that the rate of illiteracy is high among negroes but in terms of the total group, there is a much higher percentage of white illiterates. Also complicating these figures is the fact that the white illiterates come from a variety of cultural and ethnic backgrounds.

State Rankings.- A popular type of report based on census data is ranking of the States in terms of the extent of the illiteracy problem. The common approach is to rank the States by the percentage of persons within a state who are illiterate. These reports generally conclude that the center of illiteracy in this country is confined to a particular geographic area.

Table 12 includes a ranking of the ten states having the highest percentage of illiteracy within the respective states and also a ranking of the ten states having the largest numbers of illiterates. As one can see in a comparison of these two lists, the picture is somewhat different. The list of states contributing the most illiterates to the country's total includes a number of heavily populated, industrialized states.

Table 12
A Ranking of the Top Ten States in Terms of the Percentage of Illiteracy Within the States and the Number of Illiterates Within the States

Top Ten States in Terms of Highest % of Illiteracy	Top Ten States in Terms Of the Largest Number of Illiterates
1. South Carolina	1. New York
2. Mississippi	2. Texas
3. Georgia	3. California
4. North Carolina	4. Pennsylvania
5. Alabama	5. North Carolina
6. Arkansas	6. Illinois
7. Hawaii	7. Georgia
8. Tennessee	8. Louisiana
9. Kentucky	9. Ohio
10. Texas	10. Tennessee

A similar comparison could also be applied to the study of illiteracy statistics within a state. Certain regions may have a high percentage of illiteracy but in terms of number of people, the pockets of illiteracy will most likely be in urban areas. Thus in the planning of story content for instructional materials, the statistics seem to indicate that the content should be urban-oriented but not neglectful of rural backgrounds.

Vocational Backgrounds.- This topic and the data gathered from Census survey will be presented and discussed in a later chapter of this report.

Special Surveys.- There have been some reports dealing with special segments of our population which yield some demographic information concerning adult illiteracy. Chenault (5) had reported that approximately one-third of the inmates in correctional institutions are functionally illiterate. This is a particular group that must be considered by planners of reading content.

Shaffer (9) reported studies of welfare recipients and their education backgrounds. In Louisiana, for example, half of the Aid to Dependent Children women recipients and three-fourths of the fathers in the home had recieved a fifth-grade education or less. In New York, a similar study found that almost a fifth of the Aid to Dependent Children mothers had not gone beyond the fifth grade in school.

Shaffer also discussed the new pockets of illiteracy which have developed among Spanish speaking groups. Cited as examples of a high concentration of these people were New York City, Philadelphia and the southwestern states in this country. The point was made that the illiteracy rate is particularly high among the migrant agricultural worker of this country.

SUMMARY

The description of the adult illiterate drawn from the literature is a complicated one. What survey data that is available is limited by the criterion used to determine illiteracy. Of course, it might not be worth the effort to do a thorough national survey but if it was deemed worthwhile, the first step would have to be a clarification of what behaviors make a person "literate". Secondly, measuring instruments would have to be developed to evaluate these behaviors in the adult population. With the present state of our knowledge, one must be careful to avoid making any sweeping generalizations about any aspect of the adult illiterates' make-up.

For the purposes of this project, the available information discussed in this chapter was considered inadequate. Thus questionnaire and survey studies were conducted.

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Measurement of Adult Intelligence

Few studies have been reported in the literature concerning the intellectual abilities of adult illiterates. The first part of this chapter, however, will concern itself with attempts to determine the general intellectual abilities of illiterate adults with particular reference to the relationship of their ability to that of the general population.

By far the most prominant attempt to determine the intellectual level of adult illiterates has been the tests done in conjunction with the Army Special Training Centers during World War II. The purpose of these Special Training Centers was to train educationally deficient men to function at a minumum level of approximately fourth grade equivalence in reading, writing and arithmetic. Men failing to pass achievement tests in these skills at the end of a short training period were discharged from the army. Part of the routine procedure at each Training Center was the administration of an individual intelligence test, usually the Wechsler Mental Ability Scale. This test was based on the Wechsler-Bellevue intelligence scale and is very much like its parent instrument. These Army Wechslers were shown to have predictive validity in identifying those who would and would not pass the required achievement tests at the completion of the instructional program (Altus, 1).

William D. Altus in particular has reported on the extensive testing done with the army illiterates. He has reported the average I.Q. on the Army Wechsler for more than 15,000 army illiterates to be about 67. These men were in the lowest 7% of the general population in terms of scores on the Army General Classification Test (AGCT) and appeared to be rather homogeneous in their verbal ability.

The large scale testing reported by Altus is for a different generation of illiterates than the present one. Several changes have taken place in the United States which could conceivably have effected substantial changed in the nature of the adult illiterate population. Some of these changes, for example, are the decline in rural living and its concomitant increase in city living, changes in school attendance laws and teaching methods as well as vastly improved communications systems. In addition, the selection process for army illiterates, physical and mental problems, as well as the problem of malingering by some inductees also represent limitations to their findings. The extent to which the World War II data is applicable to the present population of illiterate adults, particularly the younger men and women is not known.

More recent intelligence testing of adult illiterates has been done on a much smaller scale and is often reported as only a relatively minor consideration in what is essentially a program description. Rosner and Schatz (19) have described an adult literacy program at Temple University consisting of small group and individual reading instruction based on techniques basic to remedial education. One part of their procedure consists of pupil evaluation including the administration of the verbal section of the Wechsler Adult Intelligence Scale, or when possible the entire test. They have reported that for ten adults who typify the population they have dealt with during any given period ot time, I.Q. scores range from 82 to 111 with a mean score of 97. They do not report whether any or all of these scores were verbal or total test scores, and one can only accept the authors' statement that these ten individuals represent the type of students in their program. No claim was intended, nor is any implied, that the students in this particular program are typical of any larger population of adult illiterates. The authors simply included a brief section on testing as part of their program description.

The training division of the industrial relations department at the United States Naval Supply Center in Norfolk, Virginia has conducted a functional educational program. The program was designed to give instruction in basic reading skills, oral expression and numbers. Reading instruction was conducted on grade levels two and three for one group of eleven men and grade levels four, five and six for an upper group of thirteen men. At the conclusion of instruction it was found that the upper group had shown significant improvement in reading but the lower group had not. At this point the decision was made to test the intelligence of the students in order to explore the possibility that lack of achievement might have been caused by low "native ability". The reported scores for the two groups were as follows: The higher group with a N of thirteen had a median I.Q. of 43 and a mean I.Q. of 67. The lower group had a median I.Q. of 43 and a mean I.Q. of 46. The two groups together with a N of twenty-five had a median I.Q. of 55 and a mean I.Q. of 57. The name, form, and level of test used is not given in the report although the term "mental maturity test" is used which may indicate a test published by the California Test Bureau. While the Norfolk Summary Report is in most respects adequate for their intended purposes, it is not at all adequate as a means of describing even in limited terms the general intellectual level of adult illiterates. Questions which would first have to be answered are, did the test used require reading? Were the obtained scores chance scores? Are the apparent differences chance differences?

A demonstration and experimental program with male heads of households in Alabama was conducted by the Tuskegee Institute under the directorship of A.P. Torrence (20). This program was intended for men functioning below the eighth grade level and included the intelligence and achievement testing of all students. Of the 180 trainees, 144 scored at or below the sixth level on the Gray Oral

Reading Test. Students were divided into various occupational training groups and achievement levels. "A" groups consisted of students above the fourth grade level, and "B" groups consisted of students performing below the fourth grade level. Wechsler Adult Intelligence Scale scores reported for the different trade groups and performance levels were as follows:

Trade Group	Group A	Group B	Total
Brick masonry	84.96 N= 26	75.36 N= 22	80.28 N= 48
Carpentry	86.53 N= 19	80.16 N= 19	83.34 N= 38
Farm Machinery Repair	85.00 N= 22	77.07 N= 14	81.91 N= 36
Meat Processing	82.71 N= 24	75.30 N= 20	79.34 N= 44

While Group "A" included several students functioning as high as twelth grade reading ability the members of "B" groups certainly should have qualified as at least functional illiterates. Some of these were actually non readers. The mean I.Q.'s for these different "B" groups ranged from 75 to 80. In attempting to generalize from this study to other illiterates, a major factor to consider is the process by which the Tuskegee Project students were selected. In considering the purposes of the project it was certainly logical and desirable to select students capable of profiting from the educational experience. The report indicates that I.Q. was a factor in the selection process.

It is interesting to note that the Tuskegee Group included students reading at or near the twelth grade level with Wechsler Adult Intelligence Scale scores in the seventies and eighties. The lowest of these reported scores was a sixty-nine obtained by a person who had completed the fifth grade.

The Columbus, Ohio City School District sponsored an adult basic education program which included as one aspect the achievement and ability testing of its students. About three-fourths of the students were women. The students were apparently all volunteers and ranged in age from 22 to 74 with a median age of 37.5. The Peabody Picture Vocabulary Test (PPVT) was used to estimate students intelligence level. This test is intended to estimate verbal intelligence through the subjects listening vocabulary. The test required the subjects to correctly choose a pictorial response to a verbal statement. The test was normed on white children and youth ranging in age from 2.5 to eighteen years. The Columbus group found the test to meet their needs of time and administrative simplicity and indicated that it would be useful for their purposes. Intelligence test scores given in the December, 1965 Report of the Columbus project were for a sample of forty-seven students. Several of the sample scored at or above the sixth grade level on the wide range of achievement test. The range of Peabody Picture Vocabulary Test scores for this group was from 56 to 132. The median score was 78. Eleven of these students scored above 90 I.Q. For the 28 students who scored below the sixth grade level on the Wide Range Achievement Test, the PPVT scores ranged from 56 to 98. The mean PPVT score for the twenty-eight students was 69. The individual who registered the 98 score was the only one in this group to score above 90.

Another source of data about the intelligence of adult illiterates is tests given to inmates in prison. It is widely recognized that prison populations include a disproportionate number of undereducated adults, including functional illiterates. The appropriateness of generalizing from data gathered on prison inmates has sometimes been questioned. The effect that being sentenced as a law violator has upon the intelligence scores of inmates is unknown. Nevertheless, prisoners do represent a potentially useful source of information.

At the Missouri State Penetentiary in Jefferson City, new inmates are routinely given the P.T.I. Oral Directions Test (ODT) published by Psychological Corporation. This is a short test designed for screening purposes and considered appropriate for use with persons of lower ability or educational achievement. All new prisoners are also given the Advanced Battery of the Stanford Achievement Test (SAT).

In an unpublished report done at the request of this project, (Bunker, 8) O.D.T. ranks were determined for fifty-six consecutively enrolled inmates who scored at or below the sixth grade level on the SAT reading section. Local norms have been previously determined for the ODT and percentile ranks were reported on the basis of these norms. The range of ranks for the group of fifty-six inmates was from the fifty to eighty-fifth percentiles. The median rank was thirty. Thirty-eight of these inmates were below the fiftieth percentile while only 17 were above it. One scored at the fiftieth percentile. Even though local norms were used and the relationship between these scores and the hypothetical scores for the "outside" population is now known, it is apparent that these prisoners were as a group below the average of their prison peers in intellectual ability, as measured by the O.D.T., in spite of the overlapping of scores.

In another unpublished study done at the penetentiary in Moberly, Missouri, (Baker, 5) forty inmates in their basic education program were given the Peabody Picture Vocabulary Test. The exact reading level of these students was not determined. The men ranged in age from eighteen to forty-one years. The group included both negroes and whites. The mean I.Q. reported for this group of forty inmates was 77 with a range of scores from 56 to 95.

In a study conducted by the Continuing Education Department of the Detroit Public School system (1965) one hundred students were randomly selected for interviewing from the total population of adults enrolled in Detroit's project READ. As one part of their interview, each of the selected students who participated was given the complete Wechsler Adult Intelligence Scale. Preliminary impressions of some of those involved in the study were shared with members of the Missouri Adult Vocational Literacy Materials Development Project, (M.M.D.P.). The Detroit study is mentioned here because it should make a significant contribution to the literature. Further information concerning the intelligence of adult illiterates may be found in the section on testing in Chapter III.

How does the illiterate population compare to the general population in general mental ability? The obstacles to answering this question with any degree of certainty are major and as yet have not been overcome. The only subjects available for testing are those in some organized program. How representative subjects are of the adult illiterate population is not known. The selective features of literacy programs make generalizing to the broader population of illiterates a highly tenuous procedure. Even the ability level of persons in programs has not been thoroughly ascertained. The sometimes sketchy description of instruments and subjects, together with the wide variety of instruments used and the lack of established validity for the instruments, makes generalizing about illiterates very difficult.

If a conclusion is necessary, however, it does appear that persons qualifying as students in basic literacy programs have as a group lower tested intelligence than the general population. This conclusion is supported more by the consistency of findings from study to study than by the conclusiveness of any one study. Insofar as obtained scores on standard intelligence tests are concerned, it appears that persons initiating adult literacy programs or preparing literacy materials can expect adult illiterates as a group to be substantially below average intelligence.

Additional evidence in support of the above conclusion exists in the form of vocabulary level. The relationship between intelligence and vocabulary has been discussed at length by Miner (17). As Miner has pointed out, the high relationship between abilities plus the heavy verbal weighting of tests of "general intelligence" produces a sizable correlation between these tests and those of vocabulary. The median correlation obtained in 22 studies examined by Miner was .83. In his own work, Miner uses only a short vocabulary test to assess intellectual ability. Keeping in mind the known relationship between vocabulary and intelligence, the low vocabulary levels observed among illiterates is further evidence that they are as a group of below average intellectual ability. A conclusion such as this must, of course, rest on certain basic assumptions as to the nature of intelligence.

The remainder of this section will concern itself with the nature and assessment of intelligence with special reference to illiterate adults. A persons intelligence, as most would agree, is certainly a factor in his ability to learn. This is no less true for adult illiterates than for any other group. But exactly what intelligence is, how it is best determined and even how important a factor it really is are all basic questions still unanswered. As Vernon (22) has pointed out, "psychologists... although they have been testing intelligence with some success for over forty years, have failed to reach any agreed definition as to what it is they are measuring."

Without becoming involved in a lengthy attempt to define intelligence, it must be said that most people are able to agree, even without an explicit definition, on whether given examples of behavior are more intelligent or less intelligent. It must also be granted, however, that this process is not free of value judgments.

A major part of the difficulty in defining intelligence stems from those who attempt to change a concept into an entity. While a biological basis for intelligence may well be determined, this does not negate the present practical advantages and presently more justified approach of considering behavior the test of intelligence. In testing intelligence, as it is presently done, behavior is observed and not an object measured.

When Pressey (18) was asked to explain his conception of intelligence and what types of test materials could best be used for the measurement of intelligence, he replied that "he was frankly not very much interested in the question.... Instead, he was interested to know what such tests will do, in solving this or that problem." This might well be the most appropriate point of view for persons involved in adult basic education. In view of the widespread misunderstandings about intelligence and misgivings about intelligence tests, the appropriate use of such instruments seems to require at least some understanding of what such tests consist and what they measure. Before the tests can be applied to any problem with any hope of read assistance, something of their nature must be understood.

What does an intelligence test measure? The answer is simple. As Goslin (10) has indicated, "A test measures the ability, holding constant the desire, of the individual to perform the tasks required by the test situation." The basic truth of this is apparent. But we need to know more. We need to know (1) what elements go into the ability to perform the tasks required by the test and (2) to what extent is the ability to perform the tasks required by the test relevant to the ability to perform other tasks in subsequent situations? The first question deals with the variables which influence test performance. The second question deals with the usefulness of the test score in predicting performance on other tasks such as learning to read.

What elements go into the ability to perform the tasks required by an intelligence test? In intelligence tests, just as with achievement tests, the abilities tested are products both of the individuals inherited potential for learning and of the opportunities for learning within his experience. Hunt (12) said, "In other words, previous experience as well as genes shapes up the organisms maturational readiness for new training procedures." Liverant (15) stated, "There is little doubt that intelligence development is in part a function of the environment in which the individual lives." Bloom (7) indicated that "there are undoubtedly differences among individuals in their hereditary potentialities, but the answers they give to the questions we ask in intelligence tests reflect experience as well as potential, education as well as aptitude." Tyler (21) said, "The persons quoted here and many many others all say essentially the same thing. Intelligence, as we know it through psychometrics, and intelligence test scores are the result of both inheritance and environment. The question of the relative importance of the two factors has been extensively studied. As Hunt (12) has stated, however, the question concerning the relative proportion of the variance in intelligence attributable to heredity and to environment has been unfortunate. No general answer to the question is possible.

It should be clear, however, that when intelligence is viewed as being the result of various interacting forces including both genetic and environmental factors, culture free tests of intelligence are an impossibility. It is futile to try to develop an intelligence test free of cultural influences because intelligence, or better put, intelligent behavior is itself not free of cultural influences. This is true both in its development and in the evaluation of the nature of intelligence.

"Culture fair" or "culture common" tests, as Anastasi (4) has written, are replacing tests with the older "culture free" label. These tests presuppose only those experiences that are common to different cultures. A "culture fair" test for illiterates, as an example, might be one requiring no reading. Others would require that it involve no verbal tasks at all on the grounds that illiterates are language deprived. These persons for example would not consider oral or picture tests of vocabulary to be appropriate.

It is at this point that the second previously stated question is pertinent, "to what extent is the ability to perform the tasks required by the test relevant to the ability to perform other tasks in subsequent situations." Since one major group of factors involved in the development of intelligence and intelligence test performance is the cultural-environmental factor, it is apparent that in attempting to be "fair", these "culture fair" tests are in fact rejecting the measurement of a highly relevant factor which in truth leads to the differences in behavior actually observed. These tests attempt to eliminate one of the sources of variance in the actual criterion, subsequent non test behavior. Whether or not cultural differences should be eliminated from a test depends ultimately on the effect their elimination will have on the test's validity for specific purposes. It is difficult to believe that removing cultural differences will often result in better prediction of non test behavior which is itself culture laden. For example, when the ability to handle verbal tasks is known to be a significant variable in the rate at which people learn to read, it does not seem reasonable to eliminate verbal tasks from the tests simply because the different persons had different types of backgrounds, some of which emphasized verbal tasks more than others. Both the teacher attempting to teach the person to read and the test assessing his ability to succeed at the task are concerned with his ability as it is, not the source of the ability or what the students ability might have been. It is not the task of the test to ascertain or assess the sources of ability. If a factor is a significant variable on the criterion performance, learning to read for example, it is reasonable to expect the variable when placed in a test to increase the degree of relationship between the test and the criterion performance, thus, making the test more valid, not less valid.

"Many of the variables which play a part in test performance (including cultural background, health, personality, motivation, genetic ability, and so on) will also paly an important role in other kinds of achievement, both academic and non academic," (Goslin, 10). It is the common elements between test behavior and other behavior that makes test useful. It is generally accepted that verbal ability is affected by experiential background and that some persons are relatively disadvantaged in this respect. Removing verbal tasks from tests does not eliminate verbal ability as a factor in learning to read. Removing verbal tasks from testing does not eliminate or equalize the varbal deprivation some persons may have experienced. As others have pointed out, to compensate for cultural handicaps, remedial programs and social reform are needed. Using "culture fair" tests only hides the problem and reduces the likelihood of having a useful test.

At present, and with the instructional techniques now known, verbal tests have demonstrated predictive ability. "The verbal score also predicts far more accurately than the performance score, how successful a person is likely to be in future school situations," (Tyler, 21). "It is known that in the absence of special treatment, verbal scores predict better...," (Wallen, 24).

Finding performance tasks which are not influenced by experience is difficult is not impossible. Blatia (6) studied the performance of literate and non literate Indian children on non language tests and found that, "The means for the two groups, in all five tests are significantly different, being consistently higher in the case of the literate groups." Most important than the finding itself was Blatia's suggested explanation. After observing and studying the performance of the two groups, Blatia decided that the difference in scores for literate and non literate persons were the result of formal school practice. Such factors as attention span were considered the explanation for the differences in scores. Mc Fie (16) found significant increases in the performance test scores of twenty-one African boys after two years of instruction in a technical school. He cited several references in this same vein.

Reading is a highly complex act involving many abilities. Harootunian (11) used fifteen predictor tests to predict reading achievement as measured by the _California Achievement Tests_ or _The Iowa Every Pupil Tests of Basic Skills_. Product-moment coefficients and Beta coefficients were obtained between the criterion and each of the predictor tests. Predictor tests included the _California Test of Mental Maturity_ (CTMM) and tests designed to elicit certain abilities Guilford has suggested in his theory on the structure of the intellect. Harootunian concluded that several of the tests measured variables relevant in reading that are not being elicited by intelligence tests, i.e., the CTMM. He further concluded that thinking abilities such as judgment, evaluation and conceptual foresight have much in common with reading ability.

While no one test or even a large number of tests will explain all of the variance involved in predicting reading achievement, it should be pointed out that the C.T.M.M. used by Harootunian correlated .558 with the criterior even though for about half of the subjects it had been given a year earlier (Vernon, 22). Commenting on research with allegedly pre-factor tests, Vernon concludes that the results are uniformly disappointing. "Tests of verbal and reasoning factors usually give the highest correlations with success in every school or university subject."

Writing in the 4th Mental Measurements Year Book, Commins (9) stated that "A non verbal objective index of student intelligence might seem at first glance to have much to recommend it. Unfortunately, serious criticisms can be made of all tests of this kind. We scarcely know whether "student intelligence" had anything of practical value left over after "verbal" intelligence has been subtracted." This position seems to have remained an essentially sound one, particularly with reference to such a highly verbal act as learning to read.

Something of the attitude toward intelligence testing held by persons in the field of adult literacy is reflected in these statements. "The average I.Q. of the students in one of my classes was in the 60's. We do not place a great deal of confidence in I.Q. scores, especially for adult illiterates, but in a broad sense the scores give us an idea of the present abilities of students" (Wallace, 23). "The intelligence test had to be evaluated from a rather detailed frame of reference since an inability to read can create marked interferences with functioning intelligence and we had to be concerned with determining the potential of each individual. We believe that an indication of average potential warranted at least a trial period of instruction in the program. Often this indication of potential was a single subtest score markedly above the others" (Rosner and Schatz, 19). "A number of respected investigators have argued persuasively that the tests commonly used to test intelligence and learning aptitude are not a fair test of adult ability... In addition to the speed vs. power point, others have voiced opposition to the usual test as a measure of adult ability on the grounds of its culture bias. More specifically they argue that current tests are loaded in favor of classroom based youth, ignoring motivations and problems of adult living. They state that just as there is a bias in school oriented verbal I.Q. tests in favor of middle-class and against lower-class youth there is a similar bias in favor of youth and against adults (Jensen, Liveright, and Hallenback, 14).

Is there a legitimate role for intelligence tests in adult literacy programs? If there is a legitimate role, what might this role be? The general reason for giving people intelligence tests is to help ascertain their ability to profit from an educational experience and perhaps to estimate their relative efficiency, speed, and/or capacity for acquiring specific skills or knowledge.

Ascertaining the ability of people to profit from an educational experience or estimating the relative efficiency with which persons will acquire skills or knowledge are not, however, the end goals of testing. The information gained through testing is for use, use in such processes as selection, placement, advising and counseling.

Intelligence tests are not being widely used in adult literacy programs. Often when given it is apparently only to make possible gross comparisons between selection or placement of adult literacy programs.

This, of course, may not necessarily be bad. Programs may prefer not to reject any students. By policy anyone willing to attend is welcome. There is no desire to select or reject. The ultimate test of the ability to learn after all, is whether they learn. Programs may prefer to do placement on other bases than tested intelligence. Most programs presently use teacher judgment and/or achievement test results, either formal or informal. If, however, programs are faced with more students than they are prepared to adequately service or if they are large enough to have several different class sections, a legitimate and useful role for intelligence testing can be seen. The selection of those students likely to profit the most from instruction and the placement of students into groups more homogeneous in relation to their probably rate of learning might both be accomplished more efficiently if the process included intelligence test data.

In order to serve such functions in selection and/or placement, intelligence tests would not necessarily have to be well known, nationally standardized instruments. What probably would be necessary is local norming and locally demonstrated validity. Altus (1) has demonstrated the need for caution is assuming side validity for given test items. He found that on the vocabulary sub-test of the 1937 Stanford Benet, "There are no words which retain an equal validity for differing racial and bilingual groups." These findings were in terms of predictive validity. Altus concluded that "the validity of an item is shown to be, in part a function of the group which is being measured." Altus and Bell (2) also developed a general information test and studied the predictive validity of this instrument. From their study of the items on this information test it was again concluded that "the validity of an item is a function of the group being measured."

Hunt (13) has stated a similar consideration: "Scores from tests of intelligence, of various aptitudes and achievement, or from inventories of attitudes and interests should not be thought of as generally valid or invalid. The question is: valid for what? A given kind of test or inventory may yield information that improves the accuracy of one kind of decision but not of another kind.

It may well be that general validity for a given intelligence test for all persons in all places doing all things is an unrealistic expectation. However, this only demonstrates the need for locally determined validity established for specific purposes with the type of student in the local program and the teaching techniques of the local teachers. Such an approach might not make possible comparisons between local students and the general population, but it could be of practical assistance in solving problems of selection and placement.

Conclusions and Comments.- Persons preparing adult literacy materials can assume with regard to present programs that:

1. Literacy students will not be grouped to any extent on the basis of intelligence test scores.

2. No minimum amount of intellectual ability is required for admission to literacy classes beyond whatever intelligence is required for the person to be accepted into the program.

3. Reading teachers will have no intelligence test data available with which to compare their own observations and judgments.

4. On-going literacy programs as they now function will not be a large scale source of information concerning the role of various intellectual abilities in the learning process of even simple descriptive data.

5. An unknown number of students will be enrolled in classes, but will fail to profit from reading instruction because they lack the necessary minimum intellectual skills required with present teaching techniques and instructional materials.

6. Students within the same classes will progress at different rates of speed if permitted to do so.

7. The necessary techniques for developing useful intellectual assessment procedures are known. The proof of validity for these procedures or instruments in in their ability to predict a behavioral criterion, in this case learning to read. When predictive validity is demonstrated, considerations of culture fairness become meaningless with regard to testing.

8. The development of the non verbal GATB may result in substantially different testing procedures, but this will depend on both the future considerations of the Employment Service and the instrument itself.

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Psychological, Sociological, Physical, and Related Characteristics of Adult Illiterates

Introduction.- The literature and research pertaining to the psychological, sociological, physical and related characteristics of adult illiterates is generally sparce. However, research is gradually being reported which will enable a better understanding of this segment of the American population. The major concerns of this section are the aspects which are related to adult learning. Mental abilities, such as memory, reasoning, problem solving, vocabulary development, perception and the like, are of importance to the work of this project. Social orientations and problems of the illiterate adult such as motivation, attitudes, social skills, and values also provide information which is of assistance in the development of teaching materials. Physical characteristics of adult illiterates, such as sight, hearing, speech and general health have a bearing on the approach used to teaching and learning.

Psychological Characteristics of Adults

General mental ability.- The early studies of adult learning abilities were those of E.L. Thorndike, E.O. Bregman, J.W. Tilton, and E. Woodyard in the 1920's (36). These were published in the book Adult Learning in 1928. Significant conclusions of these studies, summarized, include (1) learning ability, in most areas of learning, reaches a peak between the ages of twenty and twenty-five and is followed by a slow decline; (2) the decline in ability to learn is relatively uniform from the peak of ability to about age fifty and amounts to a decrease of approximately one per cent per year; (3) the decline in ability to learn from twenty-two to forty-two is no greater for inferior intellect than for superior intellect--aging does not discriminate between the gifted and the dull; (4) adults learn reading, spelling, vocabulary and other forms of school learning more rapidly than they would have learned them at the age of ten or twelve;

(5) the decrease in learning may be explained by various combinations of the four factors, general health and energy, ability to learn, interest in learning, and opportunity; and time for learning and outside social pressure play an important part in adult learning.

Cohen (12) points out that if there is a decrement in learning ability, as age increases, it is not large. He further concludes, "if, therefore, adults at various ages do not perform as well in learning situations as do individuals aged twenty to twenty-five, the reasons must be sought in other factors such as speed, motivation, attitude, etc." He suggested the following principles to be followed in adult education: (1) the intellectual abilities of adults permit successful learning at all ages, at least until age sixty and probably beyond; (2) the learning situation in order to be effective must take into account declines in physiological abilities of older adults; (3) perhaps the most important inference to be drawn from psychological research is the fact that motivational and attitudinal considerations apparently play an even more crucial role in the learning process among adults than they do among children--the adult is not likely to be motivated to learn something which has little or no meaning to him; (4) adults come to the learning situation with far more numerous and more rigid "mental sets" than younger students.

Lorge and others (27) stated, "When, therefore, learning ability rather than sheet wuickness if measured, the learning curve does not show declines for successive age groups." They defined learning as "the power to learn" as contrasted with the definition of learning as performance, i.e., amount of learning accomplished per unit of time. Lorge goes on to state that "whenever learning ability is measured in terms of power ability without stringent time limits, the evidence is that the learning ability does not change significantly from age twenty to sixty years--" In explanation he said:

> Age as age probably does little to affect an individual's power to learn or to think. His performance may be reduced because of changes in his speed, sensory acuity or self concept, or shifts in values, motivation, goals and responsibilities which come with aging. Adults learn much less than they might partly because of the self-underestimations of their power and wisdom, and partly because of their own anxieties that their learning behavior will bring unfavorable criticism. Failure to keep on learning may affect performance than power itself.

Weiner (40) concluded from the findings of a study of the decrease in the prominence of general ability or intellective factor as a concomitant of increasing age in successive age groups from 14 to 54 that, "general ability, as defined, is at least as important a component of mental organization at adult levels as it is during the early teen years." He found no decrease in general ability among the successive age groups.

Kelly (22) studied 96 males between the ages of 50 and 61 who had taken the Army Alpha Test as freshmen, age 19, at Iowa State College. They were tested again at age 50 and age 61 and an extensive life history questionnaire was administered to them in order to be able to explain any shifts in test performance. He found that most of the scores on the eight subtests declined between the ages of 60 and 61 but none significantly. He concluded that the period from age 50 to 60 did not adversely affect the maintenance of mental abilities. The interval from 1919 to 1961 was found to have a notable differential effect on the various functions. Performance increased on the verbal subtests, "held" on the reasoning, and declined on the numerical. He indicated that the results imply that adults would benefit most from training that would call upon their verbal ability and stored information. The study further revealed that life experience items (82 out of 115 correlated with age shifts) can be used to identify reported experiences and personal characteristics that modify the course of intellectual changes with aging.

The foregoing research reports adequately indicate that general mental ability does not decline significantly as adults pass through the various ages from youth to senility. Numerous other sources can be cited which confirm these findings. To be more specific, the topics to thinking, verbal ability, vocabulary, numerical ability, problem solving, rote learning, and related matters should be considered.

Thinking.- Kingsley (24) discusses the question of why adults surpass children in thinking. He said adults, in general, can do better at thinking out the solution of problems that children. First, they are better able to take a more objective attitude toward problems. Secondly, having greater emotional stability and control, they are likely to have less interference from emotional reactions. Thirdly, they can usually keep their attention on the problem over a longer period of time and hence are less likely to be thrown off their course by the intrusion of a new interest. Fourth, adults have a greater range of experience, better understanding, a larger fund of well developed concepts, and have acquired certain general procedures for meeting and working out their difficulties. However, Kingsley indicated that the greater responsibilities of adults are sources of real problems--mainly because they do not have such simple needs that they can be readily solved by others as children do. He indicated that adults, as is true with children, are not aware of problems in fields of activity wholly unfamiliar to them. On the other hand, the adult's greater wealth of associative resources--experience--enables him to bring to the problem many possibilities for solutions. Adults generally possess more critical judgment than children and can develop implications of a suggestion by reasoning. However, in situations unfamiliar to an adult, the quality of his thinking is likely to be similar to that of a child.

While generally the adult is more able than children to solve problems, later studies indicate that critical thinking of 480 subjects, age 18 to 80, as measured by the Watson-Glaser Critical Thinking Test revealed a rapid decline from peak performance at age 35. Low objectivity and a tendency to avoid logical analysis increased with age. The manner and extent to which curves or problem solving ability differ from curves of general intelligence have important implications for the practitioner of adult education. It is possible that disuse of problem-solving ability and fixation of attitude may interfere with the continuing development of the adult's ability to reason and conceptualize his experience.

Verbal Performance.- Early studies indicated that adults were better able to perform verbal tasks than other tasks throughout the adult age range. More recent research (Birren and others, 3) tends to confirm this finding when, in a study of a group of healthy elderly men, the subjects turned in a higher verbal performance than expected for young adults, however, they scored lower than the young adults on the digit symbol test. Thatcher (34) reflected the literature quite accurately when he said, "Tests of mental ability reveal that while adults may not do as well in mathematical skills and reasoning in spatial relationships as they grow older, they seem to lose little of their verbal skills such as reading and vocabulary and little of their general reasoning ability and judgment." He further indicated that several factors including lack of confidence block the adult student's ability to concentrate, memorize, speak up in class, and take tests.

Memory.- Cass and Crabtree (8) in discussing memory indicate that there is a strong immediate memory, but that adults tend to forget most in the first 48 hours after the learning experience. A few weeks after the original experience, the memory is very poor. The things remembered appear to be those which had the greatest appeal to use and interest or those which are presented with the greatest intensity. It would appear that the adult would resist memorization or rote learning unless it were presented in such a way as to have meaning or interest to his immediate goal or his experience.

Chown and Heron (10) found that role learning improved as the exposure period was lengthened in the case of persons over age 60. No gain was found for persons between ages 20 and 50.

Attitudes.- Mental set, disposition or stance in the case of adult learners has been the concern of a number of writers in adult education and adult psychology. Thatcher (34) indicated that adults have likes and dislikes, depending upon their past experience and conditioning and that the dislikes tend to become stronger with age. He says that they may even become mental or emotional blocks. Jensen, Liveright, and Hallenbeck (20) discuss three components of set, attributing it to the development of habit, perseveration and delayed reaction, and a consequence of cognitive position. They indicate that set may increase the adult's proneness to employ what is known rather than propose new hypotheses and may also reduce his ability to perceive and deal appropriately with alternative possibilities. The implication for the instruction of adult students is that a careful assessment of the cognitive position of the student should be made early and instructional processes and content should be geared to fit with the set of change it. It is also possible that set or resistance to change may have advantages to learning. For instance, Warren (39) found that older subjects were less inclined than younger subjects to distort words in response to a tape recording.

Attitudes, interest and motivation all have been of concern to those who have had experience in teaching adult students, especially the undereducated or illiterate adult. Nearly all writers in adult education indicate that adults doubt their ability to learn. In any case, there is a lack of confidence manifested in the ability to learn. For whatever reason, previous failure in school, having gotten out of the habit of studying, or lack of opportunity to learn in earlier days, the adult is often seriously blocked in attempts to learn by this lack of confidence. He may well have built up a complex set of explanations or mechanisms to explain away his educational inadequacy as is so often true of the undereducated adult. Implications of this condition or set of conditions are, sensitivity to failure in learning situations, the requirement of immediate success and immediate reinforcement, and the tendency of the adult to give up early on a learning task. Adults, according to Thatcher (34) come to a new learning experience "encased in a heavy armor of prejudices and convictions which they are unwilling to shed."

The literature of research does not present a clear picture of the attitudinal status or development through the adult years. Kidd (23) indicated that adult views of right and wrong, first learned by rote, are "modified later by experience, and usually his moral values tend to become more realistic and liberal." He suggests that such changes may continue throughout life but at a slower rate after the teens. Kidd contends that the adult is more conservative than younger people, and attributes this conservatism to rearing in a less "liberal" era, learning more slowly, restricted social life, positive attitude toward his social role, and physical and sensory losses which make clinging to old ways more comfortable and less threatening. He concludes that changes in attitude can be brought about by lessening the tension and the conflicts by which the person is affected. McClusky (29) indicated that adult resistance to learning (attitude toward learning) is due to many years of overlearning and consequent habit formation, rationalization, unwillingness to take on new risks, and conflicts of new learnings with old learnings.

More specifically, short term studies of adult attitudes indicate that self-depreciation is associated with aging (Bloom, 4), that adults exhibit ambivalence in self-attitudes (Werner and others, 41), and that adults tend to consider themselves younger than their chronological age (Zola, 42). Further research has found that although self-confidence and self-concept declines with age, older people tend to be less defensive and tolerate personal imperfections more. Gurin, Veroff, and Feld (19) found that the psychological and physical anxiety of both sexes increased from age 25 to age 65. Other studies have revealed variations in emotional responsiveness with age. McClusky, in the section on Psychology and Learning in Volume XXXV, No. 3 of the Review of Educational Research for June of 1965 indicated a need for a differential psychology of adults and warned against the assumption of equivalence of stimulation and motivation in successive stages of change from adolescence through late adulthood. In an interview of the motives and attitudes of Manpower Development and Training Act Trainees, the report of the Secretary of Labor (33) indicated that the attitudes of 36 men and women interviewed "ranged from realism toward self and society to genuine, untreated psychopathy." Early life experiences and treatment were expressed as contributing to both positive and negative attitudes toward work, education, and social conditions.

Kingsley (24), in an almost philosophical vein, presented a set of conditions which the "emotionally well educated adult" possess:

1. Emotional stamina which enables him to withstand the stresses of life with no loss of temper or hope and an ability to submit to restrictions without humiliation and with the courage to hold firm through sorrow and deprivation.

2. Emotional attitudes with which he subjects desires, prejudices and guilt to the light of reason.

3. Loyalties which are strong to friends, employers, institutions upon which his happiness depends.

4. Self-reliance which lead him to accept new responsibilities for his own life and make his own decisions.

5. Direction which indicates a purpose in life and an indicated direction toward achieving it.

6. Advancement whereby he desires success and works for it, accepting shortcomings and making the most of his strengths.

7. Realistic attitude with which he faces life squarely and does not flee from reality to an easier world. He accepts criticism and responsibility.

8. Tolerance, sympathy, and courtesy in relation to others.

9. Responsibility is assumed with courage--he pays his own way, gives as well as receives, and carries his just share of social burdens.

10. Maturity indicated by lack of childishness.

In summary, due to lack of research and synthesis of research related to attitudes of adults, little of a coordinated nature is known about the attitudes of adults with respect to their educational proclivities and potential. However, it can be said that adults, including undereducated adults, present to the teacher or to the materials from which they learn a complex set of attitudes which are individual in nature and must be carefully examined and understood by the teacher if education in reading or any other subject is to be effective. The common knowns are that adults bring to the learning situation a number of rather fixed attitudes, including fears, habits, rationalizations, self abasements, and the like, which cannot be clearly grouped and analyzed. The adult has been a free agent in thinking and general operational responsibility and therefore will not be classified as customarily children have been classified. More information is needed about attitudes if adults are to be taught in large groups. Rather the present state of information would indicate that adults require a greater degree of individual attention, at least at the basic education level.

Interests.- Interests of adults, as they are related to vocations and occupations will be presented in the following section on Vocational Backgrounds, Interests, and Expectations. The more general information on interests of adults will be presented in the following paragraphs.

As in the studies of adult abilities, Thorndike (35) contributed the early research in the field of adult interests. In a study of a number of graduates of Teachers College, Columbia University, he found that the decrease in interests from age twenty to age fifty was slight. Only the interest in physical activities was indicated as diminishing. Interests most needed to support adult learning showed no decrease. With adults, he concluded, if they find themselves prevented from learning by a lack of interest for learning something which they ought to learn, the lack will almost always be in the way their interests are directed not in total quantity.

Thorndike indicated that "to attach interest to any situation, cause the person in question to have the interest in response to the situation, and reward him therefore." He contended that learning without interest does not occur in any appreciable degree. He does indicate, however, that interests and likes and dislikes can be modified within limits--doing so involves a necessity to prepare the adult to want to have the particular interest. Kidd (23) concurred that not much learning of consequence will take place unless there is a marked interest present. Interests act as an impetus to seek out new experience or as a favoring climate for change and growth. Most of the literature on interests agrees with the contention that although interests change radically during life, these changes do not occur in capricious or inexplicable ways. According to Kidd, they are rather an accurate reflection of such things as changes in abilities and energy, outlets for the sex drive, modifications of the personality, and shifts in vocational and cultural expectations. The vocation will more likely affect the adult's interest than will his chronological age. He indicates that the older man is likely to be much more resistant than the younger to acquiring interests that interfere with established habits or customs. Interests and recreations that have to do with talk, writing, reading, and that are carried on at a modest pace, are most likely to survive and even increase in intensity with the passing years. Kidd concludes that most of the interests associated with most forms of learning endure or even intensify throughout life. Other sources indicate that changes in interest do not take place at a uniform rate. It has been stated earlier that the older adult appears to be more resistant to change if that change or new thing to be learned is useless or meaningless to him. In other words the older person is more selective of that which he will accept. Further, several sources generalize that breadth of satisfying interest accompanies happiness is an accepted rule for all ages. Since it is generally agreed that interests are established at an age before 25, it is likely that attempts to cultivate new interests at later ages will meet with some resistance. It has been noted also that types of interests are a matter of culture and social position.

Cass and Crabtree (8) stated that the interests of adults do not tend to change much but the value of depth of an interest varies. An adult may not learn because he is lazy, tired, or because the subject does not appeal to him. Lack of interest in learning may be due to the lack of past opportunity to engage in learning since he was a youth or young adult.

Motivation.- Any discussion of motivation is frought with problems of definition and with conflicting research findings resulting from variability among definitions of motives and motivation. Interpretation of the reports of research and other literature on motivation is difficult. Further, little research has been reported on the motivations of illiterate adults. It appears, however, that much of the information available which pertains to adults generally would also pertain, with limitations, to those adults who are uneducated or undereducated.

Motives and motivation are found to be classified as basic, unlearned motivations and learned or acquired motivations. The limited research and writing pertaining to motivation of adults will be presented under these two classifications.

Basic, Unlearned Motivations.- Kidd (23) discussed briefly the intra-organic sources of stimulation due to the need for food, drink, rest, for protection from threat in the physical environment, and for elimination of waste products. He concluded that the strength of these drives varies in extraordinary degree throughout life. He stated that "they seem to have the greatest affect upon motivation and behavior in the early years of childhood and again in the very late years of life when physical losses may impose some limits upon behavior." Allport (1) cites Klineberg's list of "absolutely dependable motives": hunger, thirst, rest, and sleep, elimination, breathing, activity, sensory hunger, which are purported to be what every human being in every culture of the world without exception wants (or needs). Other "highly dependable motives" found in all cultures but with exceptions made for individuals include sex, postmaternal behavior, and self protective behavior. Motives occurring with diminishing frequency were aggressiveness, flight, gregariousness, acquisitiveness and the like. The "absolutely dependable" motives are without exception biological drives whose satisfaction is necessary for survival. While basic unlearned motivations should certainly be considered and well understood in relation to preparing materials and providing basic literacy education programs of instruction, the learned, or acquired motivations appear to have greater relevance for the purposes of this project.

Learned or Acquired Motivations.- It is difficult to assess and describe the complex of social motivations and their relationship to biological or basic motivations. Social motives, according to Kidd (23) are highly personal but at the same time are deeply affected by the cultures in which the person lives. Some cultural needs are very powerful. Social motives are learned or otherwise acquired and can be persistant or variable. The literature pertaining to adult education is in agreement that love, affection, acceptance, belonging, self-esteem, self-respect, self-confidence, feeling of adequacy, self-actualization, self-fulfillment, and self-expression are all found to some degree in human beings of all ages. The motives derived from the social and cultural have greater significance for the adult than for the child. Wallace (38) indicated the reasons given by students in literacy classes for wanting to come to class. These reasons included need to be able to fill out an application form and get a better job; gain and keep the respect of one's children or family; read the papers one signs; gain a higher standing in the community; vote intelligently; read newspapers, magazines, and stories; help one's children; correspond with friends and relatives; read street signs and road maps; use the telephone directory; become a better citizen; gain self-respect. The implied underlying motives are in consonance with the generalizations above. However, further knowledge is needed about the motivations of the adult illiterate if adequate influences for motivations is to be provided in materials from which adults learn.

Numerous surveys have been made of motivations and interests as reasons why adults engage in adult education classes. A most comprehensive such survey was made by Nicholson (31). The findings of most of the surveys parallel and agree with those of Nicholson and generally present the following pattern. Adults usually have several motives for getting further education with one or more of them dominant. Most people have some specific educational motive. People of like sex and with similar amounts of formal schooling tend to have similar motives for engaging in further education. Vocational motives predominate during the active work life (20-55 years of age) for married men, unmarried or independent women with greater personal or family obligations, and people planning an occupational change. Intellectual-cultural motivations are highest for women, single men, and people with higher previous education.

Centers (9) reported a study of the motivational aspects of occupational stratification of 1100 men who represented a cross-section of the adult white male population and who were divided into the major job classifications. He found that the more lowly the person's occupation is, the more likely he is to say that he does not have a good chance to get ahead in his line of work. A further finding indicated distinct differences in the desires or value preferences of the various occupational strata. The higher occupational groups "characteristically and consistantly manifest a preference for situations providing opportunities for self-expression, leadership and interesting experiences." The lower occupational groups strongly emphasized their desires for security, independence, autonomy, or freedom.

The Department of Labor, Office of Manpower and Automation Research (33) found from a pilot study of 36 men and women trainees interviewed that "motivation, expressed as a desire to better oneself, is conspicuously present in most, if not all, of the responses of the trainees, including the dropouts." The trainee's aspirations were modest, consisting of "to have a steady job" or "to be able to pay the bills." It was noted that the trainees were easily discouraged and relatively minor frustrations could precipitate a dropout. It was concluded that although the trainees' goals were modest, their committment to them is tenuous and they are not really aware of the sacrifices or frustrations involved in attaining the goals.

Changes in motivations during adulthood are pertinent to the project of developing materials for use in teaching adult basic and functional literacy education. Kuhlen (25) in an excellent chapter on motivational changes during the adult years, discussed motivational change from the positions of motivational patterns of "growth and expansion" and "anxiety and threat." He indicated that a number of factors interact to cause age changes in adult motivation, including "age-related differences in cultural stimulation and expectation, the degree to which satisfaction or chronic frustration of certain major motives over time paves the way for the emergence of other motives, and the degree to which people experience social and physical losses in highly valued areas." He contended that becoming "locked into" a situation tends to make frustrations keener and that changing time perspectives create critical points in the motivational history of individuals. Kuhlen further concluded that a need for growth-expansion integrates commonly observed goals and interests. Shifts in goals and interests are noted "from career and family to community interests, to identification with childrens' success, to religion and philosophical interets." He stated that satisfaction of growth-expansion motives is by less direct and more vicarious means in older years.

With respect to anxiety and threat, Kuhlen indicated that the evidence seems clear that these factors increase as people grow older. The increase in anxiety and threat then tend to be the motivational source of changes which occur in behavior. The importance of individual sex and social economic class differences to adult education is clearly apparent, including having a perception of a meaningful pattern and the ways in which various sub-groups of the population translate their needs into specific goals or adapt particular patterns of defense against losses.

Motivation to engage in additional education or to attempt basic education as in the case of the illiterate adult are influenced in many ways by time and money. The person with a full quota of family obligations and the task of earning a living finds time to engage in educational pursuits difficult. On the other hand, the youth sees time as a plentiful commodity. To people approaching retirement or having already retired time may prove frustrating and interfere with educational motivations or reinforce a desire to continue education. Money is often a limiting factor both with respect to being able to afford things and the economic and social consequences thereto and the direct cost of education in the face of other economic needs. The host of attitudes related to money and the many facets of influence it has upon the individual at various states in his development indicate that it is a strong modifier of attitudes.

An appropriate summary of motivational orientations of the undereducated adult was made by Brazziel (5). His remarks are briefed in the following sentences. First of all, the most easily recognized needs of the undereducated are needs of the survival type, such as providing for rent payments, food, and clothing. Such needs govern and color behavior in many ways. The undereducated person is a "struggler" and a "scrambler." The disadvantaged are pictured as overly-pragmatic persons with highly developed concerns for individuals in their group. Their motivation for long-range planning seems stunted as does their inclination for self-evaluation. The undereducated person is pictured as "prone to over-projection of the causes of his difficulties and is limited in his view of prospects for improvement." Low needs for achievement and low needs for dominance or autonomy were noted. On the other hand, the undereducated-disadvantaged exhibit manifestations of high social and religious values and high needs for nurturance and affiliation. Further, minority group status brings evidence of lowered self-esteem, suppressed aggressive urges, displaced aggression, in-group aggression, alienation from mainstream values and participation, and exhorbitant use of defense mechanisms. Brazziel follows the characterization of the motivational level of the undereducated with implications for programs of education, recruitment, retention in programs, teaching, and changing attitudes.

Sociological Characteristics of Adults

Illiterate and semi-literate or undereducated adults are found throughout the United States in both rural and urban areas. They are represented by both sexes and come from most racial and ethnic origins. Migration to the large urban centers of the United States and settlement in the core city during the period 1940-1966 has become a well known phenomenon. Among these migrants are found many who are basically or functionally illiterate. Brown (7) reported an estimated 78,000 functionally illiterate adults in the population of the city of Buffalo, New York. Asbell (2) reported that in 14 counties of Eastern Kentucky, "about 30 per cent of the adults are functionally illiterate- and a far greater percentage can be assumed to be occupationally illiterate." A high percentage of prison populations are deficient in reading according to D'Amico and Standlee (13) and as many as 40 per cent may be illiterate.

The literature is replete with evidence and statements relative to the relationship between low social and economic status and level of education. Some

23,000,000 adults age 25 and older have completed less than eight grades of school. The 1960 census recorded 8,300,000 adults 25 years of age and older who had less than five years of schooling and could be considered functionally illiterate. These functional illiterates included four and one-half million men and three and four-fifths million were women. The functional illiterates in this group included persons living on farms--a high percentage of negroes, older persons--white and non-white, persons from rural areas who have moved to urban centers, and migrant farm workers of several racial and ethnic groups--Mexican-American, Puerto Rican and others.

Brice (6) posits a direct relationship between an adult's educational attainment, his occupation and consequently his earnings. Lack of schooling results in lower earning capacity, higher rates of unemployment, more dependence on public welfare, higher rejections for military service, and insufficient literacy skills for vocational training and retraining. Brice cites a study of all employed males during 1957 in the age group 35 to 54 who had completed less than 8 years of elementary school. In this group 92 per cent earned less than $6,000 per year. Of the employed workers with less than an eighth grade education 65 per cent have between $1,000 and $1,500 and 61 per cent have incomes between $1,500 and $2,500.

Unskilled workers have the highest rates of unemployment and the lowest level of education. Most recipients of public assistance are persons of low educational attainment.

Passow (32) reported that these people are poor, some very poor, and have never known comfort or convenience in material things. They have different than middle-class standards of health, sanitation, and education. Their religion is primitive and they speak a language filled with colloquialisms and accents. They have had little formal schooling and are untrained. The families live in low-cost public housing or in over-crowded, substandard, multiple dwellings of all types in neighborhoods which are transitional. They are largely from ethnic and racial minority groups.

Many sources indicate that modern, hard-core poverty is inherited. The children pattern their lives and behaviors after their parents and other adults. The children of the impoverished family, whether matriarchical and patriarchical in leadership, suffer from a poverty of experience and if the parents are illiterate the values and images of an illiterate world are transmitted to the child.

Many undereducated people are negroes. They have, in the case of many, only recently come from a rural or semi-rural environment where literacy was not an asset and was not encouraged. Many superstitions or at least incorrect reasons for many natural and social phenomena are held by these people.

In Buffalo, New York, Brown (7) found that the illiterate adult exhibited a utilitarian and religious orientation. They tend to find active involvement with the environment distasteful and show a lack of experience in interacting with the environment. Although they had come to Buffalo from distances of 500 miles or more most had not been out of their immediate neighborhood since they arrived. They encountered difficulty in the reading required to enable them to travel--maps, signs, obtaining dirvers licenses, and the like. They tend not to be venturesome, but seem to prefer to be where help is available if they need assistance. Brown found considerable lack of knowledge among illiterate adults in how to function within their environment lacking knowledge of common and often elementary things. The illiterate described exhibited no hostility, tended to be "cooperative to the point of being docile," and highly dependent upon others--especially "the government." They felt little committment toward learning and apparently see the goal of learning as far-removed, and even farther removed, the ability to handle the requirements of a job.

Cloward and Jones (11) in discussing social class and educational attitudes and participation, report the forces making for lower academic achievement among impoverished youth as receiving less instructional time and the tendency in our society to motivate academic achievement by holding out the promise of future occupational rewards. The latter, they state, is not valid for the underprivileged because "educational attainment does not necessarily enable the lower-class person to overcome the disadvantages of his low social origins, thus imposing a restraint upon upward mobility. A further deterrant is the inability of the family to give one a start in business or other work. Also, the racial group from which the individual comes may severely limit his opportunity for occupational mobility. In a rather extensive interview study of 988 respondents, Cloward and Jones examined the problem of differences in attitudes toward education by social class. Their findings indicated that evaluations of the importance of education in the lower and working classes appear to be influenced by occupational aspirations when contrasted with the evaluations of middle-class persons. The data further suggest that participation in educational activities does influence evaluations of the importance of education, attitudes toward the school as an institution--the tendency of participation to heighten the emphasis on education is especially pronounced in the lower class. However, participation was also found to result in more critical attitudes toward the school.

Freemen and Kassebaum (16) stated that "when the literate and the illiterate interact, the illiterate is more likely to be the adapting individual; to an overwhelming degree his is an accomodative mode of existence."

The research on the socio-cultural characteristics of the undereducated is very limited. There is scarcely enough information to provide an integrated picture of this group. There is a need for much more research to be done if adequate programs for educating these people are to be provided.

Physical Characteristics of Adults

There is a paucity of information on physical characteristics or the undereducated adult to be found in the literature. However, from the limited sources the following is representative of the information about illiterate of functionally illiterate persons which is available for use by teachers, researchers, and those who would develop materials.

Wallace (38) indicated that health problems are common among illiterates. Many infirmities may be psychologically caused, but are no less real to the person himself. Many illiterate students are in serious need of eye or sight correction which, if corrected, results in great improvement in their work. If glasses are worn they are often of the dime-store variety. Some students will have problems of mental health which require psychiatric aid.

Kidd (23) reported that from maturity on, it is normal for the human organism to undergo gradual changes in cell tissue dryness and rate of cell repair; lessened cell elasticity; lowered rate of basal metabolism; some decrease in strength; decrease in speed, intensity, and endurance of neuromuscular reaction; and vision and hearing become impaired. The strength curve, in the case of people who do hard physical work shows a gradual decline until age 70 when capacity may be as little as half of what it was at 35 or 40 years of age. Losses in dexterity are negligible up to age 70, which losses can be retarded by training and practice. Speed and reaction time decline as age increases. Circulation, nervous system functioning, voluntary and involuntary muscular function, and the time for body damage to be repaired are causes of the decline.

The visual acuity of the undereducated adult is of great importance to the educator in preparing materials and executing programs of education and training. Kidd cites evidence that beyond the age of 20 every person shows some decline in visual acuity and that beyond age 40 the decrease is considerable. The per cent of persons age 40 and over with normal vision declines from 50 to six per cent and the greatest decline is found beyond the 55th year of age where only 24 per cent of the adult population have normal vision.

Hearing acuity also declines gradually until about age 65. Kidd stated that auditory disability sufficient to create difficulties in understanding an interview or a telephone conversation increases from about five per cent in children under 15, to about 65 per cent in adults, 65 or over. Older people tend to slow up in their reaction to sounds. Hearing losses, aside from direct loss in terms of participation, also have a marked influence upon the individual's confidence or security. Other results of hearing loss are a feeling of isolation, suspicion of other people, paranoia, withdrawal, and a feeling that new things cannot be learned.

Strength and speed may be a handicap to the older worker especially if the task requires these characteristics. Compensation for lack of strength and speed may usually be compensated for by such attributes as judgment, steadiness, and reliability.

Since many undereducated adults live in depressed social and economic conditions it is reasonable to assume that other problems relating to health and physical status of such persons will be found. Passow (32) cites a statement from The Office of Education publication The Impact of Urbanization on Education--"crime, alcoholism, drug addiction, poverty, illiteracy, disease, unemployment, and broken families are found in city slums in massively greater degree than in society as a whole."

Although little information is reported in the literature relative to speech impairment of illiterate adults, aside from the culturally derived speech patterns of this group, it can be assumed that speech and other vocal problems would be at least as great as in the population generally. It is apparent that both the cultural and physical speech problems of the adult will require diagnosis and possible treatment if he is to be given full opportunity to profit from basic education. Much more research will be needed on physical problems of the under-educated adult if adequate meterials and methods of instruction are to be developed.

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Vocational Backgrounds, Interest, and Expectations

Since a vocational theme was to be used throughout the reading material to be developed, there were certain types of information needed to enhance the construction of the content. Information was needed which would tell us what work experience the illiterate had had in the past and what types of jobs he held at the present. There was a need to know, as well as possible, what the future holds for him as shown by occupational trends. Since interest can play an important part in the determination of a person's occupation, there was a need to consider the types of vocational interest of illiterates. In addition to the previous work experience, the future trends, and the interests of the illiterate, information was also needed relative to the types of jobs which the illiterate might hope to attain, with a reasonable likelihood of success, by rehabilitation.

A search of the literature revealed very little information pertaining to the questions for which answers were sought. While there was considerable literature about adults in general, as far as occupations are concerned there was little directed at the segment of the adult population which is illiterate. There needs to be a thorough study of their potentialities in terms of the questions which have been set forth. Perhaps now, in view of the new-found interest in illiteracy, such a study will be conducted.

The questions set forth were:

1. What work experiences have functional illiterates had in the past? What types of jobs do they have at present, or the more recent past?

2. What do occupational trends indicate about future occupations for functional illiterates?

3. What are the vocational interests of functional illiterates?

4. What types of jobs might functional illiterates hope to obtain through additional education and retraining?

Occupational Background

Generally it is held that illiterates make up a major portion of the unskilled laborers, but only one study dealing with particular types of jobs was found. This study was the work done by Altus and Mahler (1) with illiterates in the Army during World War II. At that time they found that over fifty per cent of the men with whom they worked had been employed in agricultural occupations. According to D.O.T. classification they further found that one in eleven held skilled jobs; one in four held semi-skilled jobs; and one in seven held unskilled jobs prior to entry into service. The sixteen main occupations were presented in table form and appear in Table 13.

Table 13
Main Occupations Held by Army Illiterates, World War II

Occupation	White		Negro		Total	
	N	%	N	%	N	%
Farmhand	856	60.75	194	32.94	1050	52.56
Truck Driver	187	13.27	155	19.52	302	15.13
General Laborer	85	6.03	73	12.39	158	7.81
Construction Laborer	48	3.41	33	5.60	81	4.05
Cook	18	1.28	32	5.44	50	2.50
Mechanic's Helper	28	1.99	22	3.74	50	2.50
Tractor Driver	34	2.41	5	.84	39	1.95
Miner	34	2.41	4	.68	38	1.90
Sawmill Worker	14	.99	22	3.74	36	1.80
Porter	0	.00	33	5.60	33	1.65
Section Hand R.R.	20	1.42	12	2.04	32	1.60
Service Station Attendant	12	.85	20	3.39	32	1.60
Painter	18	1.28	11	1.87	29	1.45
Welder	20	1.42	7	1.19	27	1.35
Lumberjack	19	1.35	2	.34	21	1.05
Carpenter	16	1.14	4	.68	20	1.00

Since World War II there has been a noticable shift of agricultural workers to the urban areas. The Department of Labor (Occupational Outlook Handbook, 1966-67) has stated that "the annual rate of net out-migration has risen from 2.0 per cent in the 1920-30 decades to 5.3 per cent in the 1950-60 decades and 5.7 per cent during the period 1960-65." This mobility is reflected by the figures given in Section I which gave indication that sixty per cent of the functional illiterates were located in urban areas. For the purposes of the materials to be developed this seems to indicate that the majority of the content should be directed toward occupations which are commonly found in an urban area.

A study of the 1960 census data was made to obtain additional information about the work experience of those classified as functionally illiterates. This information presented in Table 14 pertains only to the civilian population and does not include those engaged in the armed services.

An inspection of this table reveals that although there are functional illiterates represented in each category the preponderance are found in the more "manual" types of occupations. From the table we find that sixty-seven per cent of the men were employed in four categories: operators and kindred workers, service workers, laborers, except farm and mine; and farm laborers and foreman. Only thirty-nine per cent of the total men were engaged in those occupations. For the women we find that eighty-nine per cent of the functionally illiterate were engaged in these occupations as compared with forty-two per cent of the total women. When considering the total functional illiterates as compared with the total population in terms of these occupations we find seventy-two per cent and forty per cent respectively. Again by inspection we note from the totals that the per cent engaged as "operatives" is more than twice that for "farm laborers" the percentages are twenty-six per cent and eleven per cent respectively. The term "operatives" refers to the semi-skilled workers who engaged in such types of work as assembling goods in factories; driving trucks, buses, cabs; and operating machines (Occupational Outlook Handbook, 1966-67). For the content of the material to be developed, this seems to indicate that an "operative" occupational theme could be utilized.

Table 14
Comparison of Percentages of Occupations Held by Persons Fourteen and Over Who Had Less Than Five Years of Schooling With The Total Population Fourteen and Over Regardless of Educational Level

Occupation	Illiterate Men %	Total Population Men %	Illiterate Women %	Total Population Women %	Total Illiterate %	Total Population %
Professional, Technical and Kindred Workers	1	10	1	13	1	11
Farmers and Farm Managers	10	6	2	1	8	4
Managers, Officials and Proprietors except Farm	4	11	2	4	3	9
Clerical and Kindred Workers	1	7	2	31	2	15
Sales Workers	2	7	3	8	2	7
Craftsmen, Foremen and Kindred Workers	15	20	1	1	12	14
Operatives and Kindred Workers	25	21	29	17	26	20
Service Workers	10	6	52	23	19	12
Laborers except Farm and Mine	20	8	2	1	16	5
Farm Laborers and Foremen	12	4	6	1	11	3

Occupational Trends

For the purposes of this project, probably the best single source from which to obtain a concise statement about the trends for the future is the (Occupational Outlook Handbook) published by the Department of Labor, Bureau of Labor Statistics (1966-67). The handbook is published every two years; therefore it is relatively current as far as the assessment of trends is concerned. The following discussion will draw heavily upon this source and will essentially follow the pattern of presentation as presented in the Occupational Outlook Handbook by examining the present labor force and then by looking at the projected changes according to industrial and occupational classification.

The present labor force has been divided into eleven different occupational groups. The 70 million people in the labor force were distributed among these eleven groups as follows:

1. Semi-skilled workers.- made up the largest occupational category. About 13 million people today are engaged in assembling goods in factories; driving trucks, buses, cabs; and operating machinery.

2. Clerical workers.- almost 11 million who operate computers and office machines, keep records, take dictation and type.

3. Skilled workers.- number about 9 million, include carpenters, tool and die makers, instrument makers, all-around machinest, electricians, and typesetters.

4. Professional and Technical workers.- include among their 8½ million such highly trained personnel as teachers, engineers, physicians, lawyers and clergymen.

5. Proprietors and managers.- number about 7½ million, these are people who are in business for themselves or manage the operations of commercial, industrial, or public employers.

6. Service workers.- almost 7 million men and women who maintain law and order, assist professional nurses in hospitals, give haircuts and beauty treatments, serve food and beverages, and see to it that the public is satisfactorily accommodated in hotels and restaurants, airplanes, ships and railroad trains.

7. Sales workers.- about 4½ million. They are found in retail stores, wholesale firms, insurance companies, real estate agencies, as well as offering wares door-to-door.

8. Unskilled workers.- about a little over 3½ million (does not include those in farming and mining), and for the most part they are busy moving, lifting, and carrying materials and tools in the nation's workplaces.

9. Private household workers.- About 2.3 million people work as maids, governesses, laundresses, caretakers and butlers.

10. Farmers and farm managers.- number about 2.3 million. Operate or manage farms of differing types.

11. Farm laborers and foremen.- number a little over 2 million people. They do the chores that need to be done on the farms.

This broad description of the labor forces shows the number in the various occupational categories, but it does not explain by whom they are employed. For instance, a clerical worker may be employed by a wholesale company, a manufacturing company, a transportation company, a government agency, etc. To understand the distribution of the workers according to employment it is necessary to look at the "industrial profile."

The Occupational Outlook Handbook (1966-67) views industries in terms of whether they produce goods or services. Until the recent past the production of goods has been the prevailing trend. The present status of these two industries is set forth by the following statement:

> "Production of goods - raising food crops, building houses, extracting minerals, and manufacturing articles no longer occupies most of the Nation's workforce. Today's employment emphasis is on providing services. The efforts of most American workers are claimed by such activities as teaching; caring for the personal health and well being of other people; selling; repairing and maintaining all kinds of equipment; providing recreation, transportation, delivery service and utilities; and providing banking services and meeting insurance needs."

In an effort to obtain a better understanding of the changes that have taken place, the two large general classifications are further sub-divided into nine major industry groups and the changes that have taken place since World War II are noted. The changes reported for the period 1947-64 are summarized as follows:

1. Goods-producing industries.- employed nearly 26 million people in 1964. Employment has risen slowly in recent years.

    a. Agriculture, once employing more than half of all workers, employed only six per cent or 5 million workers in 1964, a drop of forty-two per cent since 1947.

    b. Manufacturing.- still the largest group with about 17 million workers - had an employment increase of about eleven per cent between 1947 and 1964.

    c. Contract construction.- employment, now at 3 million, has increased fifty-seven per cent between 1947 and 1964.

    d. Mining.- which had fewer than 1 million workers in 1964 has declined considerably in importance since 1947. Between 1947 and 1964, mining employment fell by more than thirty-three per cent.

2. Service producing industries.- employed 37 million people. Employment has increased markedly since 1947.

    a. Trade.- has expanded sharply since 1947. Wholesale and retail outlets have multiplied in large and small cities to satisfy the needs of our increased urban society. Employment in trade totaled 12 million in 1964 an increase of more than thirty-six per cent since 1947.

    b. Government.- employment has grown faster than any other industry - an increase of nearly seventy-four per cent between 1947 and 1964, this growth has been mostly in state and local governments, which accounted for nearly three-quarters of all government employment in 1964. Overall government employment rose from 5.5 million in 1947 to 9.5 million in 1964.

c. Services and miscellaneous industries.- Over the 1947-64 period, total service employment rose from slightly more than 5.0 million workers to more than 8.5 million.

d. Transportation and other utilities.- Increases in air and bus travel have been offset by a decline in railroad industry, resulting in an overall drop of nearly five per cent. Employment fell from 4.2 million in 1947 to 4.0 million in 1964.

e. Finance, insurance and real estate.- During the 1947-64 period, employment in this industry grew from 1.8 million to 2.9, an increase of nearly sixty-eight per cent.

The preceding summarization of the occupational and industrial profiles as they were established in 1964 has given us a rather gross description of the labor force. Located within this gross description are the "functional illiterates" who are preponderantly employed in the semi-skilled, service, unskilled, and farm laborer categories. Two of these categories, semi-skilled and service, contribute a sizable number to the work force while the other two, unskilled and farm laborers, represent a much smaller number. Also, another category has been added which may contain a large number of functional illiterates - private household workers. What is not known is to what extent these people contribute to the total number. This is something that needs to be known, but is not available at present. In order to determine what the future holds for the functional illiterate, the most appropriate approach is to examine what the projected trends are for the industrial and occupational categories that have been used. By utilizing these projected trends a generalization may be drawn with regard to the functional illiterate.

The trend that was observed between 1947 and 1964 of the service - producing industries experiencing more growth than the goods-producing industried will probably continue. The projected increase or decrease for 1975 according to the nine sub-categories listed in the Occupational Outlook Handbook (1966-67) is summarized as follows:

1. Agriculture.- faces a continuing decline. The outlook is for a 1975 farm work force one-fifth lower than in 1964.

2. Mining.- employment by 1975 may drop lower than 1964. Minor increases may occur in quarrying and other non-metallic mining. In total, the job level in the entire mining group, which fell by one-third from 1947 to 1964, will probably experience little change in the next decade.

3. Contract construction.- expected to grow at a more rapid rate than the average for all non-farming industries. Overall, the outlook is for construction employment to increase by more than one-third between 1964 and 1975.

4. Manufacturing.- employment may grow by almost one-fifth in the decade ahead, although the growth will vary for individual manufacturing industries.

5. Government.- mostly state and local will be a major source of new jobs. The employment level may be as much as one-half higher in 1975 than in 1964.

6. Service industries.- will be among the fastest growing industries in the future. About one-half more workers will be employed in this division in 1975 than in 1964.

7. Wholesale and retail trade.- may grow by nearly one-fourth between 1964 and 1975, somewhat more slowly than non farm employment as a whole.

8. Finance, insurance, and real estate.- may expand their payrolls by one-fourth over the 3 million employment in 1964. That is a slower growth rate than the industry registered in the past.

9. Transportation and public utilities.- expected to show little or no change by 1975. Widely differing employment trends may just about offset one another.

From this summarization it can be seen that only two industries, agriculture and mining, are expected to experience a decline or no increase. The other industries are expected to increase at differing rates, with the service and government industries leading the expansion. Within each industry may be found the full range of occupational levels - from unskilled laborers to the highly-trained professional. We need to examine the projected trends within those occupational levels where the functional illiterate is typically found before arriving at a general conclusion about what the future holds for this group of people.

Since the turn of the century there has been an increasing trend in the growth of employment of white-collar workers - professional, managerial, office, and sales, - over the blue-collar workers - craftsmen operatives, and laborers. In 1956 the number of white-collar workers surpassed the number of blue-collar workers for the first time. This trend is expected to continue with an increase of nearly one-third of white-collar workers and nearly a fifth for blue-collar workers between 1964 and 1975. It is expected that there will be a faster-than-average growth among service workers; and a further decline among farmers and farm laborers. The category non-farm laborers is expected to experience relatively little or no change. Semi-skilled workers, or operatives, will decrease during the decade, but at a slower than average rate.

To sum up this section on the trends that will be affecting the functional illiterate, it might be said that:

1. The projected decline in agricultural occupations will produce a movement of farm laborers to the urban areas.

2. The projected expansion in the service industries and the increased need for service workers seems to indicate that this occupational area is one where functional illiterates, with possible retraining, may hope to find employment

3. The increase in the sales industry is another area where the functional illiterate with retraining may find employment.

4. The increased mechanization of the manufacturing industry will require more skilled workers; therefore, those functional illiterates in the semi-skilled occupations may through further training move into the skilled occupations.

5. The expansion of the federal, state, and local government operations could provide increased employment for the functional illiterate if his educational level could be improved.

In general it might be said that the future holds a pattern of retraining and upward mobility along the occupational scale, if the functional illiterate is to keep pace with the overall industrial and occupational trends. More will be said about the retraining phase in a later section.

Vocational Interest

Another factor related to the vocational future of adult illiterates in addition to training, experience and opportunities is their interests. What are the vocational interests of illiterate adults? Are their interests different from those of literate persons of similar socio-economic backgrounds: How much of what has been studied concerning vocational interests is applicable to this group? Some authors have even questioned the existence of differential interests among workers at the lowest levels. Unfortunately a scarcity of research in this area leaves us with no ready answers to these questions. There are, however, several possible avenues by which the vocational interests of illiterate adults might be approached. Each approach is related to a different interpretation of the term "interest".

Super (16) has identified and classified four major interpretations of the term interest. These are: expressed interests, manifest interests, tested interests and inventoried interests. Each of these classifications involves its own techniques of assessment.

Expressed interests are simply what a person says he is interested in. The obvious procedure for assessing expressed interests is simply to ask a person about his interests. Although this procedure is simple and direct, it has several innate weaknesses. One is that it requires a certain degree of expressiveness. Also it presupposes that the individual "knows" what his interests are. (While it might be argued that a person does not have an interest if he doesn't know it or can't say it, it can be shown that persons unable to express their interests verbally may demonstrate interests in other ways. e.g. manifestes tested inventories). Expressed interests are also limited by the individuals experience and knowledge. It is very difficult for a person to express an interest in something he has never heard of even though with experience there might be interest. Expressed interests are obviously open to faking. This is a particular weakness in situations where people stand to profit by professing certain interests. The instability of expressed interests has been a limitation, but this particular criticism has been primarily directed towards the expressed interests of children and adolescents. Even keeping these weaknesses in mind however, the examination of expressed interests remains one of the basic approaches to the study of vocational interests.

Manifest interests are those demonstrated by participation in an activity or occupation. In this sense, it is not so much what you say that counts, as what you do. As David (5) has stated, "since people tend to spend their time on things that interest them, information of this sort should delineate pretty well an individual's interests."

The procedure for assessing manifest interests is simply to determine what the person has done and is doing. The great limitation of this approach to studying interests is the basic assumption that participation in an activity reflects interest in that activity. This may be a particularly serious weakness with reference to vocational interests, especially for persons with limited educational backgrounds. Participation in a given job may reflect a lack of opportunity for choosing and even ignorance as to possible alternatives from which to choose. The assumption of interest implies a freedom to choose which does not always exist. Sometimes it is difficult to specify exactly what in an activity a person is interested. In a job for example, is a man interested in the work itself, the opportunity for congenial companionship, working close to home or the paid vacations. Occupations in which people engage are useful indices of interest only insofar as they were free to choose their occupations and the specifics of their likes and dislikes can be determined.

Tested interest refers to "interest as measured by objective tests, as differentiated from inventories which are based on subjective self-estimates" (Super and Crites, 16). The assumption basic to the assessment of tested interest is that interest in a topic or activity will be reflected in greater knowledge about that topic or activity. The role of experience must be recognized, and the freedom to choose one's experiences is implied. An illiterate adult might, for example, express a genuinely felt interest in medicine without being able to demonstrate any particular knowledge of the field. He might on the other hand have considerable knowledge about farm work and detest every aspect of the work.

The primary advantages of testing interests are: the relatively objectivity of the test, and the security against faking in this approach. But in view of the difficulties involved in testing and the restricted opportunities of illiterates for learning, interest testing does not appear to be a likely approach with these persons for the near future. To our knowledge, there are no interest tests designed for use with illiterate adults.

The fourth major approach to the assessment of vocational interests is by means of interest inventories. Interest inventories are essentially lists of occupations or activities from which an individual selects preferences. The critical factor which distinguished inventories from "expressed" interests is that several inventoried responses are tabulated and combined in such a manner as to permit systematic comparison with other individuals or groups. Inventories are unlike tests in that inventory responses are expressions of preference rather than knowledge. Among professional counselors, inventories are the most widely accepted method for assessing vocational interests (McCall, 10).

The most prominent inventories are the Strong Vocational Interest Blank for Men and the Kuder Preference Record Vocational, although numerous other vocational interest inventories have been developed. With respect to interest inventories Clark (3) and others have indicated, the development of vocational interest inventories and the study of vocational interests have been largely concentrated on the upper levels of the occupational hierarchy.

Recently increased attention has been given to lower-level occupations. In describing his own work with non-professionals, Clark states that "The work is a pioneering effort since interest measurement has been carried out in the past primarily among those occupations which are normally entered by college students..." (Clark, 3). Clark's instrument, the Minnesota Vocational Interest Inventory (M.V.I.I.) has been prepared to provide systematic information on the interest patterns of men in non-professional occupations. It is intended as an aid to counselors working with students and others who are contemplating occupations at the semi-skilled and skilled levels" (Clark and Campbell, 4). Clark (3) did not attempt to differentiate workers at the unskilled level; thus, even assuming the utility of the M.V.I.I., there remains no prominent inventory specifically designed for use with persons working at the lowest occupational levels. It should be pointed out that functional illiterates have not been, and hopefully will not be, limited only to jobs at the "lowest occupational levels." Some of the occupational scale titles on the M.V.I.I. seem quite relevant to such persons. For example, stock clerk, warehouseman, hospital attendant, carpenter, painter and plasterer, all seem appropriate or potentially appropriate vocations for adults presently classified as functional illiterates. Another occupational scale, "truck driver," was actually one of the jobs most frequently held by army illiterates prior to their induction (See Table 13 in this section) with fifteen per cent of the men having been in this occupation.

Unfortunately for those concerned with illiterates, the M.V.I.I., as well as the older, already widely used inventories, requires reading ability so that even when content may be appropriate such inventories are not useable with illiterates. The possibility of reading already existing interest inventories to illiterates has apparently not yet been widely considered. Although reading the statements to the illiterate is a possibility, it raises the question of standardized administration and leaves the question of appropriate norms and listening vocabulary level. The illiterates might not understand the items even if they were read to them.

Another possible alternative is to improve the illiterate's reading level so that he could take an already existing inventory such as the M.V.I.I. in the intended standard manner by reading the items himself. Realistically, however, this may be expecting too much. Studies concerning the reading difficulties of the commonly used vocational interest inventories seems to demonstrate difficulty levels above eighth grade (Johnson and Bond, 9) (Stefflee, 15)(Rocber, 13). Although they report no research on the question, the following statements by the authors of the New M.V.I.I. apparently indicate a feeling that ninth grade reading ability is required by their instrument: "The M.V.I.I. has been administered at the ninth grade level; the majority of students tested had no difficulty in reading and understanding the items. The authors feel that, for general purposes, the inventory should be suitable for students in the ninth grade or higher, or for persons who are at least fifteen years of age" (Clark and Campbell, 4).

Another possible approach to using vocational interest inventories with illiterate adults is to develop and use inventories which require no reading. Such inventories have been developed but have not experienced widespread study or use. These inventories have used photographs or drawings rather than words as items. Since this is conceivably a promising but little used approach to assess interest, pictorial inventories were reviewed in some detail.

Giles (7) developed an instrument to measure interests using thirty-two photographs showing men at work. These photographs were considered to represent "manual," "social," and "mental" occupations. Each photograph was presented separately with subjects giving a like, dislike, or indifferent response to each picture item. Test re-test correlations were significant but low, the "manual" score having the highest reliability with a coefficient of .56. Little evidence was provided concerning validity although very low correlations with intelligence test scores seemed to demonstrate that something other than general intelligence was being measured by the photographs. It appears that this early work by Giles was the first attempt to develop a pictorial vocational interest inventory.

Pierce-Jones and Carter (12) have described the development of a pictorial inventory consisting of fifty photographs in 144 different pairs designed for use on the opaque projector. The photographs were selected by judges to depict interest categories represented in the *Kuder Preference Record*. The following points summarize some of the major findings from their studies:

1. "Subtests of the pictorial inventory are moderately reliable. The split-halfs correlations, corrected with the Spearman-Brown formula, range from 146 to .92 with a median value of .81. *Preference Record* subtests appear to be somewhat more reliable than their pictorial inventory cognotes.

2. Correlations obtained between cognote scales of the pictorial inventory and the *Preference Record* are statistically significant at the five per cent level or better in every instance for both men and women subjects. In general, the correlations found are higher than those reported between similarly named scales in verbal inventories and range from .27 to .75 with a median value of .61" (Pierce-Jones and Carter, 12).

These authors concluded that effective interest measurement can be conducted using an inventory composed of photograph items showing people engaged in occupational and vocational activities. Additional information about pictorial interest inventories may be found in the section dealing with the design and the study of the interest of illiterates beginning on page 18 of Chapter II.

While authors and publishers of picture interest inventories have expressed confidence in their instruments, reviewers have been much less ready to endorse their use. Both the Geist Picture Interest Inventory (G.P.I.I.) and the California Picture Interest Inventory (C.P.I.I.), which were reviewed in some detail in Chapter II, are review in the Sixth Mental Measurements Yearbook. Neither instrument was considered ready for counseling use by its reviewers. The California PII has also been reviewed by Siegle (14). Siegle stated that:

> The picture Interest Inventory represents an attempt to develop a nonverbal measure of occupational interest. As such it is a good idea. Much remains to be done with it, however, before it can take a place along side with well-developed inventories as the Strong and the Kuder... The evidence now available does, to be sure, substantiate the potential utility of the instrument. The problem is that there is not yet enough evidence.

In summarizing the use of interest inventories as an approach to the assessment of vocational interests among poor readers, the following procedures can be followed. One, the reading ability of the subject can be raised to a level permitting them to take the published, widely used instruments. This, of course, delays the time of testing and assumes an ability to make substantial increases in reading ability. Two, inventories could be read to the subjects. This procedure would first have to be justified by research. Three, inventories not requiring reading ability can be used. Presently available nonverbal inventories, the picture interest inventories, are not widely accepted as ready for use. The use of such instruments would also require further study.

In summarizing the role of interests with regards to the vocational future of adult illiterates, the following conclusion seems apparent. No systematic, completely satisfactory procedure for assessing interests is available. In the absence of adequate interest tests and inventories, expressed interests will play the major role in interest assessment. For this reason, it is important that persons working with educationally deficient individuals recognize the previously stated limitations of expressed interests.

Retraining of the Functional Illiterate

In addition to a knowledge of future trends for, and the assessed interest of, illiterates the future presents the problem of upward mobility and retraining for the functional illiterate. The degree to which they are active participants in upward mobility may be affected by how realistically they view their chances for mobility. Do they have realistic expectations about the types of jobs they might obtain? Have they given any thought to their future employment? The answers to these questions can play an important part in the determination of the future occupations of the functional illiterates.

A search of the literature revealed nothing that would be directly helpful in answering these questions. A study by Carters (2) appears to have indirect inferences for the first of the questions set forth. Carters' study dealt with the motivational aspects of occupational stratification with a sample of 1100 white males who were divided into the major job classes. One of the conclusions stated by Carters was that "the more lowly the person's occupation is the more likely he is to say that he does not have a good chance to get ahead in his line of work." In the absence of information to the contrary, it is reasonable to assume that this sentiment would also be expressed by the functional illiterate who is typically at the bottom of the occupational ladder. If this is the case, then one of the first major steps to retraining is to overcome the belief that there is no hope for the future.

Much has already been done to help bring about the upward mobility through such measures as the Manpower Development Training Programs, The Job Corps, The Area Vocational Schools, The Neighborhood Youth Corps, and the basic education provisions under the Economic Opportunity Act, Titles II B and Title V. President Lyndon Johnson, in his manpower report to Congress for the year of 1965 (Manpower Report) reported:

"...More than 100,000 persons completed training under the Manpower Development and Training Act.

...More than 500,000 young men and women were approved for participation in the Neighborhood Youth Corps.

...About 200 area vocational-technical schools were approved for construction.

And 85,000 full-time students are receiving financial assistance to being or continue vocational training.

...Word-experience programs provided jobs, basic education, training...for 65,000 public welfare recipients with almost 200,000 dependents.

...Almost 30,000 young men and women were enrolled in the Job Corps."

While the majority of these people are not functional illiterates, through such efforts a start is being made to help those who are functionally illiterate to move up the occupational ladder.

A tabulation of occupational training received by 1000 or more trainees under the auspices of the M.D.T.A. illustrates the more typical occupations for which training is being given. Table 15 represents the occupations for which 1000 or more trainees received training from August, 1962 through December, 1964.

Inspection of this tabulation reveals that twenty-three of the thirty-three occupations fell in the skilled, semi-skilled, and clerical and sales categories while only ten occupations were in the service area, professional and managerial, and agricultural categories. There were only five service occupations represented. In view of the trends presented earlier which indicate the greatest expansion will be in the service occupations, it would appear that these occupations are being neglected. It must be kept in mind, though, that these projects are designed to meet the needs of the local areas in which they are located. Again what is not known is the extent to which functional illiterates were included in these numbers of the degree to which they would be able to participate if they were included.

Two aspects of retraining which have not received much attention, but should, and which directly affect participation by functional illiterates are: the level of reading that is needed in the training phase and the level of reading that is

Table 15

*Occupations Where at Least 1,000 Persons Have Been Trained in MDTA Projects

August, 1962 through December, 1964

Occupation	D.O.T. Grouping	Projects	Trainees
Stenographer	Clerical and Sales	411	14,765
General Machine Operator	Semi-skilled	318	11,045
Nurse Aide	Service	117	10,955
Practical Licensed Nurse	Professional and Managerial	309	10,694
Clerk-Typist	Clerical and Sales	199	9,971
Automobile Mechanic	Skilled	380	9,127
Combination Welder	Skilled	179	6,803
Automobile Body Repairman	Skilled	198	4,538
Arc Welder	Skilled	61	3,841
Electronic Assembler	Semi-skilled	36	3,499
General Office Clerk	Clerical and Sales	96	3,493
Sub assembler (aircraft)	Semi-skilled	6	3,190
Typist	Clerical and Sales	36	3,123
Hotel and Restaurant Cook	Service	97	3,056
Sewing Machine Operator (workpants & garment)	Semi-skilled	26	3,023
General Sales Person	Clerical and Sales	35	2,535
Electronics Mechanic (entry)	Skilled	77	2,488
Waitress	Service	37	2,115
Automobile Service Station Attendant	Semi-skilled	68	1,917
Orderly	Service	20	1,851
Mechanical Draftsman	Professional and Managerial	63	1,780
Secretary	Clerical and Sales	46	1,624
Psychiatric Aide	Service	19	1,580
Automobile Service Station Mechanic	Semi-skilled	51	1,568
Machine Stitcher (Boot & Shor)	Semi-skilled	26	1,482
Bus Driver (School and other)	Skilled	4	1,475
Key Punch Operator	Clerical and Sales	26	1,358
Machinist (entry)	Skilled	45	1,295
General Farmer	Agricultural	37	1,268
Truck Farmer	Agricultural	35	1,239
Programmer	Professional and Managerial	28	1,134
Carpenter	Skilled	37	1,125
Electric Appliance Serviceman	Skilled	52	1,094

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*Taken from pages 157-161, Table 4 - "Occupations for Which MDTA Institutional and On-The-Job-Training projects were Approved, August, 1962 through December, 1963" - *In Manpower Research and Training Under the Manpower Development and Training Act*, U.S. Department of Labor, Government Printing Office, 1964.

Pages 179-191, Table A-3 - "Occupations for Which MDTA Instructional and On-The-Job-Training Projects Were Approved in Calendar Year, 1964." *In Manpower Research and Training Under the Manpower Development and Training Act of 1962*, U.S. Department of Labor, Government Printing Office, 1965.

needed on the job. In discussing plans for the Job Corps, Sargent Shriver noted "a fifth-to-sixth-grade literacy equivalency is considered necessary to profit from vocational training" (Isenberg, 8). This appears to be a commonly held opinion, but it is questionable whether a fifth-to-sixth-grade equivalency is sufficient in view of the reading level found in the training manuals and books used in training. Again we find that no through study has been undertaken to ascertain the readability levels of the vocational manuals now in use. A related study by Miller (11) comparing the readability levels of general shop textbooks against the tested reading level of ninth grade boys found that "the range of difficulty for the textbook samples was quite large within each textbook." This range of difficulty varied from seven grade levels in one book to eleven grade levels in two books. Some of the samples went as high as the sixteenth grade level. While this study was conducted with general shop textbooks used by ninth grade boys, it appears reasonable to assume that a similar situation might be found among the textbook and manuals used in present training programs. The readability level of the material and the reading level of the trainee assume increased importance in view of the change in training techniques that have occurred. In Overview magazine (October, 1962) we find the statement:

> "Virtually all job-training programs... require that trainees be able to read and write. No longer can an apprentice learn how to use the tools of his trade through oral instruction or watching another man work. Textbooks, parts catalogs, and assemble manuals are standard today both for training and day-to-day job activity."

In view of this it seems appropriate that the reading difficulty of the material used should be determined and the reading level of the functionally illiterate trainee improved before he undertakes specific vocational training. The amount of time involved would of course differ with the individuals involved, but this approach would be preferable to assuming that a fifth-or-sixth-grade reading level was sufficient only to find the trainee unable to continue with his program.

Another aspect of the retraining that should be considered is the amount and level of reading that is actually needed on the job. There is a possibility that the reading level required for training is actually higher than what is needed to do the work involved on the job. Edgerton and Blum (6) reported an attempt to construct an illiteracy-literacy scale to reflect the degrees of literacy required to perform the duties of a job. This effort appeared to hold promise for the purposes of this project, but further investigation resulted in no additional information concerning the illiteracy-literacy scale. A scale such as this, or a similar scale, would be helpful if the retraining of functional illiterates is to be successful. If the reading level required on the job was known prior to the commencement of training, the training program could be adjusted to enable the trainee to more fully meet the job requirements as far as reading is concerned. Retraining of the functional illiterate will remain a major problem of upward mobility unless a more realistic approach is adopted for the future.

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Review of Available Adult Reading Instructional Materials

In order to ascertain the nature of format, content, instructional methodology, word perception skills, comprehension skills, spelling and handwriting skills, provisions for testing and evaluation, vocabulary development, and readability, the available programs of materials for teaching basic reading to adults were analyzed. Their analyses and appropriate comments are summarized in the following section. Complete analyses are in Appendix A.

How to Read Better, Books 1 and 2, The Steck Company

The content of the two books is varied, including fables, legends, poems and short stories. There are few illustrations. The typical lesson pattern is to present a selection to be read which is followed by vocabulary, writing assignments, etc. There is no separate teacher's manual. The heaviest emphasis in the workbooks is upon the development of comprehension skills. Good questions for directed reading are printed before most selections. The readability levels are 5.4 and 5.7, respectively.

The Adult Reader, The Steck Company

This reading workbook emphasizes the development of a sight vocabulary. Basically, the content is built around the Smith family. Normally, there is an illustration for each selection. There is no separate teacher's manual since each selection is one-page in length, self-directing. Since the emphasis is upon building a sight vocabulary, no attempt is made to teach principles of phonics, structural analysis or comprehension skills. Spelling and handwriting are presented concurrently. The readability level is 2.4.

Learning and Writing English, The Steck-Vaughn Company

This text is similar to the other Steck materials in that the selections are self-directing. It is not a reading text per se, but it is a general writing and usage text. The emphases are upon learning the skills of punctuation, capitalization, usage and letter writing.

System for Success, Books 1 & 2, Follett Publishing Company

This is a two-book series designed to teach reading, writing, spelling, usage and basic arithmetic. The content of Book 1 is concerned with words and phrases developed from word-families. Book 2 has narrative selections, largely of a social studies nature. Word-perception skills in both books are mainly word-building exercises developed from word-family charts. Readability levels for the two books are 3.8 and 7.3, respectively.

Steps to Learning, Books 1 & 2, The Steck-Vaughn Company

The content of the two books has a vocational and home-life orientation. There is no separate teacher's manual. Directions to the teacher and class are given at the bottom of each page. Workbook exercises include syllobication, auditory and visual discrimination. Comprehension skills are not developed. Spelling is taught concurrently with handwriting, which focuses upon the formation of cursive letters before the formation of manuscript characters. Readability levels are 2.5 and 2.4, respectively.

Reading for a Purpose, Educational Opportunities Project (Follett)

This program includes instruction in reading, writing and usage. The content is varied, with selections about the family, the world of work, school, safety, parks and national resources and money. Language skills such as usage, punctuation, paragraphing, "sentence-sense," dictionary use and letter writing are represented. The teacher's manual is a separate book and offers to the teacher the purposes, procedures and suggested activities for each lesson.

There is a fairly complete treatment in teaching word-perception and comprehension skills. Cursive writing is used throughout the program. Manuscript writing is introduced when the student needs to complete an application blank. The readability level is 2.8.

Ready for Reading, i/t/a/ Publications, Inc.

This program is intended for elementary school use and was considered because it uses the initial teaching alphabet. The program is flexible in its implementation and provides a definite sequence for the teaching of the 44-character alphabet.

Communications I, II and III, Educational Opportunities Project (Follett)

This series had three texts: Getting Started, On the Way, and Full Speed Ahead. The first book teaches the alphabet, speech sounds (as represented by letter-symbols), numerals and both manuscript and cursive writing. Narrative selections begin with Lesson 20 in book two and continue through book three. Although the content is varied, many of the selections are centered on the family unit. Separate teacher's manuals are not provided, but explicit directions are included within the texts for each lesson. Word Perception and comprehension skills are taught, with apparent emphasis being placed upon the learning of the alphabet. The average readability level for this series is 2.7.

Reading in High Gear, Science Research Associates, Inc.

This program was designed for adolescents. It consists of three cycles, with narrative selections beginning in the second level. Much of the content is comprised of adaptations of well-known selections. There are four teacher's manuals which give explicit directions. Word-perception skills include syllabication, word endings, initial and final consonants, blends, compounds and locating small words within words. Most of the comprehension questions are of a factual nature. The average readability level for the series is 3.9.

Instructional Methodology for Adult Illiterates

Several well-developed sources of adult instructional methodology are available to the teacher and research in adult education. These sources are *general*, pertaining to adult education for all types of adults and *specific*, pertaining to adult basic or literacy education.

In the general adult education category are found such substantial publications as *Education of Adult Prisoners* by MacCormick (11); *Adult Education* by Jensen, Liveright, and Hallenback (7); *How Adults Learn* by Kidd (9); and *Public School Adult Education* by the National Association of Public School Adult Educators (12).

Three publications pertaining to the instruction of illiterate adults are *The Literacy Instructor's Handbook* by Wallace (14); *Basic Education for the Disadvantaged Adult: Theory and Practice* by Lanning and Marny (10); and *Adult Elementary Education* by Cass and Crabtree (2).

This section of the report will discuss the general information on literacy education from the literature and finally the brief findings pertaining to the use of the initial teaching alphabet (i.t.a.)

Adult literacy education has the fundamental purpose of teaching the adult the skill to read, write, and spell. The outcomes of such instruction are achievement at the functional level in these skills. A good reading method according to Wallace (14) will take up one problem at a time, show the student exactly what the nature of the problem is, make it possible for him to succeed, and then build logically on each previous lesson. Students can learn to recognize and say the names of each of the letters; then, by using a few letters at a time, students can see how the letters are used to spell the sounds of the words they already know and can soon read whole sentences. Wallace concludes that a phonetic method gives the quickest results with adults. Commonly spoken words are those which adults first want to learn and these provide the most rapid and satisfying reinforcement to learning. Wallace finds literacy teaching methods different from those used in teaching children. Adults must not be treated like a child and must not be taught like a child--patronizing and pitying evoke defense and resistance. The adult student must be respected as an equal in-so-far-as possible. The illiterate adult should not be blamed or honored for his condition. Teaching him requires perseverance, consideration as an individual, recognition of his native abilities, using a sincere, firm, fair, friendly student-teacher relationship, maintaining dignity in dress and demeanor, planning lessons, and encouraging and involving the student in his learning.

In teaching reading to adults, the content, according to Wallace (14), should be related to their daily lives. She states that "few reading programs use one pure method of instruction to the exclusion of all others. Combinations of sight-word, phonics, linguistics and "new alphabet" among other methods may be needed to give maximum opportunity to learn to read. Factors in method selection include use of words in spoken or listening vocabularies of the student; phrases and sentences that are idiomatic rather than "unreal" English: a plan for including writing in the program; opportunity to listen to oral language in meaningful content; opportunity to listen to oral reading--for concentration on comprehension and so that the student can become familiar with syntax of written prose; and awareness of the problem of dialect. Reading comprehension or reading for meaning should be an important objective of the program and is carried from word meaning to phrase and finally sentence meaning.

Spelling should proceed from the words students use in conversation and the words used in reading materials. The students must be taught through picturing the shape of the word, hearing the sound of the word, saying the word in a sentence, and writing the word. Reading and spelling should be taught together. The most regular spelling is the consonant-vowel-consonant pattern.

Handwriting is also an aid to learning to read. Normally the adult will want to learn to write cursive letters even though initial instruction in manuscript writing will serve as a better foundation for cursive letters when they are taught later.

Cass and Crabtree (2), prior to discussing teaching methodology, provide a listing of several factors of which the teacher should be aware and the techniques by which they should be managed. (1) The factor decline of visual acuity requires provision of good illumination, large legible chalkboard writing, and ascertaining the student's need for glasses. (2) Decline of auditory acuity, required clarity and loudness of speech; definite lip movements, and change of voice pitch. (3) Decline of speed of learning calls for pacing appropriate to the student's learning rate; student's fatique level' use of a simple, direct, mature approach' use of practical, useful materials; insure a degree of success, and present small activity units of work. (4) Ability to learn requires pitching the level of the word to the student's abilities; work should be of immediate use; students should be praised, feel a sense of mastery, confidence and belonging. (5) Interest should be stimulated through use of a variety of methods, techniques, and devices for presentation and practice including audio-visuals, mature adult materials, changes in activity, avoidance of boredom, reassessment of goals, and use of language understood by the students. Memory requires conditions which minimize forgetting; test, repeat, and practice work taught in the previous session; and provide many opportunities for practice and repetition.

Cass and Crabtree (2) suggest the use of a variety of methods for teaching illiterate adult students and suggest that selection of the method should be based on familiarity with many methods and approaches, try-out of several methods with the group, select the method or methods which appear to be effective and give satisfaction to the learners, and continually experiment to improve the methods selected. They state that "the most successful methods in teaching literacy skills to the native born are those which make use of the "global" or sentence approach presenting ideas or thoughts through sentences and paragraphs." This method develops the ability to comprehend the written or printed page in order to obtain knowledge or skills.

With respect to the characteristics of materials used with adult elementary students, Cass and Crabtree (2) indicate that they should be appealing and attractive to the user, technically accurate, educationally sound for adults, related to the learner's life in the community, written or prepared on a mature level, and designed to create a desire for more material on the part of the learner.

Gray (6) cites the chief aims of adult reading programs and those pertaining to values to be acquired through reading and those concerned with reading attitudes and skills. The former include the purposes of meeting the needs of daily living; promotion of health, sanitation, improvement of child care, raising better crops, and increasing economic status; promotion of a growing understanding of one's physical and social environment; development of an understanding of local traditions, institutions, and prevailing practices; cultivation of attitudes and ideals which make for worthy membership of family, community, and nation; increased understanding of other places, countries, peoples, and times; broadened cultural backgrounds; satisfying religious aspirations; and getting enjoyment and pleasure out of reading. The latter include: to develop compelling interest in reading; to cultivate an attitude or demand for reading activities; to develop accuracy and independence in word recognition; promote ability to secure a clear grasp of the meaning of what is read; to cultivate the habit of reacting thoughtfully to what is read; to develop the ability to make use of ideas acquired through reading; to increase speed of reading with a clear grasp of meaning; to promote good oral reading; to broaden interest in reading good material; and to establish the habit of reading regularly for pleasure and information. Gray suggests two important conclusions to be considered in readiness to learn to read; first, "that many personal, social, and environmental factors directly affect readiness; and second, that when appropriate steps are taken to remove handicaps and to provide the necessary preparatory training many adults who had previously failed to learn to read are able to make rapid progress. His development of the reading program methodology, too detailed for presentation here in its entirety includes (1) readiness determination and development; (2) establishing initial reading attitudes and skills using grouping, familiar words and sayings, audio-visual aids, the primer approach, and instructional materials and methodology; (3) growing rapidly in ability to read using methods of identifying attainment and needs of students, basic reading instruction, supplemental reading, personal reading, and diagnosis and reteaching; and (4) acquiring more mature reading habits through grouping for instruction, varied types of reading materials, and stimulation and guidance of students. Gray's article is recommended to all teachers and developers of materials and methods for use in teaching reading to undereducated adults.

Miscellaneous references appropriate for consideration in the development of materials and methodology of teaching illiterate adults are presented in the following paragraphs.

Robert F. Barnes in a presentation at the 1965 International Reading Association Convention in Detroit, Michigan, reported that teachers need to exhibit empathy rather than pity for adult basic education students. He noted that the two types of student motivations were vocational and self-improvement--the implication being that materials and teaching should be oriented to these motivations.

Torrence (13) indicated that helping adults to become readers and writers might be best achieved when materials are related to other literacies.

Kandel (8) stated that teachers should teach reading and writing with a purpose.

D'Amico and Standlee (3), from a study of literacy training prison, reported the need for materials for teaching reading which would appeal to adults. They indicated that more important than materials is the method of instruction. The instruction "should be individualized because of the variance in motivation, attitudes, abilities, previous education and life experience and other personal variations among adult prisoners." They further reported that starting to teach reading by having students learn the alphabet is not an acceptable method for adult prisoners. Teaching reading and writing in terms of immediate needs of students is given as a successful technique. "Acceptance of the individual at his present level of ability, plus an emphasis upon his growth in self-understanding, change in attitude, and better understanding of the social forces within which he lives is central to the instruction programs."

Brown (1) stated that instructional programs and methodologies should be (1) based on the development of a common experiential readiness for instruction; (2) instruction should be differentiated on the basis of the abilities of the students; (3) the aim of instruction should become the thorough learning at each of the instructional steps before moving on to more difficult levels. (4) vocabulary needs to be thoroughly introduced to students before they meet it in reading, and it needs to be words that have a place in the vocabulary of these adults; (5) vocabulary needs to be more strictly controlled for use with the adult illiterate than when used with children' (6) increased personal involvement in the learning process is necessary and can be accomplished by using shorter-term goals--instruction which carefully integrates learning to read with general occupational learning should increase committment to learning; and (7) materials should have an attractive format, appeal to adult tastes, based on social, religious, vocational and personal interests of the adult student.

The Bureau of Adult Education, New Jersey State Department of Education, in a mimeographed paper titled "Tips for Teaching Basic Reading to Adults," reviewed the use of several methods of teaching reading to adults, including phonics structure analysis, context, picture, and configuration methods. It was concluded that the teacher must "be familiar with the different methods and apply them with all possible care," and that teachers should be cautioned against over use of rules which are seen as "final" and may lead to confusion of the adult student.

The Division of Vocational, Technical, and Adult Education, of the Florida State Department of Education produced a detailed publication Teaching Reading in Adult Basic Education (4). The Division suggests and describes five approaches to teaching reading to adults--the basal adult reader approach, the individualized reading approach, the experience approach, the programmed instruction approach, and the packaged program approach. It is suggested that the good program essay incorporate all of these approaches.

Fox (5), in discussing teaching techniques and procedures for adult reading instruction suggests the use of the four methods--visual, phonic, kinesthetic, and combinations. She suggests the use of the sight method using flash cards first for non-readers. The phonetic approach is begun at about the same time with four or five sounds introduced at a time. The teaching of beginning word sounds, ending and middle sounds, and blends follow. Then word families, prefixes, suffixes and root words are added. Fox suggests that the kinesthetic method--wherein the adult writes the word after a model provided by the teacher--should increase adult progress in reading and writing. Different methods of word attack should be used depending upon which functions best for each individual.

Little research is available concerning the use of the initial teaching alphabet as an instructional medium for adults. Studies reporting the use of i.t.a. with children indicate that this linguistic approach may aid the beginning reader overcome the hurdle of initial reading instruction since it attempts to provide a more consistent sound-symbol relationship than does traditional orthography.

When i.t.a. is being used in adult classes, instructional methodology should vary from sound reading instruction only in degree since i.t.a. is a medium, not a method. However, provisions for the introduction and maintenance of the 44-character alphabet must be made so that instruction will have some order and sequence.

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Consultations with Authorities and Experts

When a project is undertaken to develop materials designed specifically for adult illiterates there is a certain amount of orientation which must be accomplished before the actual writing begins. One part of this orientation was consultations with people who had knowledge relevant to the subject. These consultations were held in conjunction with the other types of research conducted by the project, and covered a period of about one year. The major areas of concern to the project with which the consultations dealt were: (1) characteristics of adult illiterates, (2) characteristics of the teachers of adult illiterates, (3) suggestions for content, and (4) technical advice about the utilization of i.t.a. in the development of the materials.

In the early stages of the consultations emphasis was placed upon obtaining a broad overall view of the problem of adult illiteracy. In addition, sources of further information were sought which were followed up either by correspondence or personal contact. Conferences with members of the United States Office of Education, State Department of Vocational Education, labor organizations on the state and national level, privately supported and church sponsored organizations, and penal institutions proved very helpful in obtaining additional information. Several consultative sessions were held with sociologists, industrial and vocational education professors, and people in labor education on the University of Missouri campus to add to this broad, overall view. These conferences were supplemented with consultations with directors of programs in which adults were being taught to read.

From the above consultations the members of the project began to put together the characteristics of adult illiterates for whom the materials were to be developed.

It was soon determined that there was no typical adult illiterate, but a broad grouping with varying characteristics. There were some characteristics that adults appeared to have in common. Those consulted generally agreed that adult illiterates had the following common characteristics:

1. The adult illiterate shows lack of training and practice in dealing with abstractions.

2. The adult illiterate lives for the present and exhibits a lack of orientation toward the future.

3. The adult illiterate often suffers from poor eyesight, loss of hearing, speech handicaps, and other physical ailments.

4. The adult illiterate often comes from a bi-lingual home.

5. The adult illiterate often exhibits poor or inadequate speech patterns, such as dropping the endings on words or laziness in speech.

6. The adult illiterate usually is found among those members of society on the lower levels of the socio-economic level although, more than we might suspect, may be found at all levels.

7. The adult illiterate usually possesses below-average intelligence, although some will be found in the average range.

8. The adult illiterate is usually highly motivated, although the source of motivation may vary greatly.

9. The adult illiterate's ability to learn to read does not appear to be affected by age, although the older adult may progress at a slower rate.

10. The adult illiterate often has a rural background, although he may reside in an urban area.

11. The adult illiterate often is successful in hiding his handicap with various ruses as: "I'm sorry, I forgot my glasses." "I don't quite understand these directions. Could you explain them to me?".

12. The adult illiterate has a much longer attention span than might be expected.

With these generally agreed upon characteristics as a starting point interview schedules were developed to gather more information about adult illiterates. The findings from the interviews are reported in the following sections of this report.

Directors of adult basic education programs and personnel responsible for securing teachers of adult illiterates, were consulted to gather information about the characteristics of adult basic education teachers since a teachers manual was to be developed also. In general they agreed upon the following characteristics:

1. Adult basic education teachers usually are elementary school teachers or teachers with elementary school teacher training. A large number of the teachers, though, have had no training in the teaching of reading, especially in voluntary programs with volunteer teachers.

2. Adult basic education teachers cannot use the same approach with adults that they have used with children.

3. Adult basic education teachers do not need to come from the same socio-economic background as their students. An accepting attitude is more important in dealing with adult illiterates.

4. Adult basic education teachers often are not aware of the psychological and sociological problems of their students or how to deal with these problems.

5. Adult basic education teachers vary in age, as well as experience, but this does not appear to be detrimental to their effectiveness.

6. Adult basic education teachers need a teacher's manual that is very explicit. Those with experience supplement the manual, but those without training or experience need all the direction that can be given.

7. Adult basic education teachers often have had no training for teaching adults to read.

Since the primary purpose of the Missouri Adult Vocational Literacy Project was to develop materials, the content of the materials was a focal point of the later consultations. Consultations were held with persons who had developed or were responsible for the development of materials on the local level. Consultations were held with persons who had had many years of experience working with adult illiterates. From these consultations some specific ideas for the content of the materials were gathered, but generally the suggestions were less specific as indicated by the following: The content should:

1. Have some reference to a rural setting.

2. Be multi-ethnic, and contain no sterotypes.

3. Be about real life situations rather than ficticious, but should not be depressingly realistic.

4. Show concern for family relations, since most adult illiterates want to help their children.

5. Possess variety since adult illiterates are interested in reading about everything.

6. Be about topics of interest to adults in general, although students did not object to learning from children's books since little else was available.

7. Contain some socially significant topics, such as a knowledge of laws which affect the students.

8. Have a strong "father image".

9. Contain topics which would be interesting to women since a large number of women are in the classes.

10. Inform the adult illiterate how to avoid being duped.

11. Help the adult illiterate learn to manage his finances.

12. Probably be built around a neighborhood setting with a number of families involved.

13. Provide the starting point for class discussion.

14. Be contained in a series of smaller books rather than one large book to allow students a feeling of accomplishment.

These findings were later confirmed by the teacher and student interviews, and the mailed questionnaire.

The last area of concern dealt with technical advice about the utilization of i.t.a. in the development of the materials. A working conference was held early in the fall of 1965 at which the members of the project were taught how to use i.t.a. In addition to learning how to use i.t.a., discussions were held regarding the utilization of i.t.a. as a medium of instruction with adults. From these discussions the following suggestions were derived which were instrumental in the technical development of the material:

1. Teachers should operate with rules they understand rather than just looking up i.t.a. characters for words. They need to be able to think from "sound" to "symbol".

2. Double consonants should be retained provided the character is a simple one.

3. Adults will need a good deal of "ear training" or auditory discrimination work.

4. Consonants are more stable and probably should be used before vowels.

5. A small sight vocabulary should be built first before introducing the individual symbols.

6. There is no particular order for the introduction of symbols. Symbols introduced first could be the ones that appear most frequently in the early stories to insure sufficient exposure to the symbols.

7. Because of visual problems, similar looking symbols should not be introduced together.

8. Fewer repetitions per word should be needed for adults.

9. The facing page idea is favorable, because adults will know clearly when they are dealing with t.o. and when they are dealing with i.t.a.

10. It is important to keep the students in i.t.a. for a sufficient length of time to allow for transfer to t.o. The facing page arrangement will allow transfer to occur whenever the student is ready.

11. Fluency in reading i.t.a. is most important in transferring to t.o.

In October, 1965 members of the project staff consulted with the members of an i.t.a. reading project sponsored by the University of Detroit--center for Continuing Education about their work with i.t.a.* From this consultation it was confirmed that i.t.a. could be used successfully with adults, but with greater success if the adults had a tested reading level from zero to grade level three. There was also general agreement that students should be allowed sufficient time to become fluent in i.t.a. before attempting transfer to t.o. It was also pointed out that word concept and comprehension should be stressed after the adults have learned to unlock words.

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*A final research report of this project has subsequently been published and is entitled Research Report on Basic Adult Aducation Program, (University of Detroit: Center for Continuing Education) October, 1965.

The trip made to the University City, Missouri reading class provided further confirmation that i.t.a. could be used as an instructional medium. The materials used at University City were children's materials, but the students did not seem to be opposed to them. Success with reading, even though some had not yet transferred, appeared to have overcome several objections to the material.

Structured Interviews with Teachers of Adults

Structured interviews with teachers of adult illiterates were conducted to supplement the information found in the literature and from consultations. The interviews dealt with six areas of concern related to the development of the student's materials and the teacher's manual. These six areas of concern were: (1) teacher characteristics and training, (2) student motivation and interest, (3) student dropouts, (4) student characteristics, (5) classroom management and procedure, (6) evaluation of materials used, and (7) physical characteristics of materials. The findings of these interviews will be summarized in this section. More detailed information may be found in Appendix B.

Teacher characteristics and training.- Most of the teachers interviewed had previous teaching experience of some kind. About half had previous experience in the teaching of reading in elementary school and secondary school. Of those interviewed about half had no previous experience in adult reading programs. The importance of personal qualities, such as being understanding, sympathetic, and respectful as teacher characteristics was stressed by the teachers. They also stated that any training program should include the nature and characteristics of adult illiterates, as well as the technical skills and knowledge of i.t.a. and none had a "teaching knowledge" of the medium.

Student motivation and interest.- The majority of the teachers believed it might be necessary to compel adult illiterates to attend reading classes, although they all agreed that some students required no compulsion. The majority of the teachers were of the opinion that motivation could be stimulated by the teacher and motivation on the part of the student could be developed. With regard to the motivation of students to attend classes, the teachers could not discern any prevailing reason for motivation. The teachers were in disagreement about the importance of materials to motivation, but they did agree that some materials were more interesting than others. Most of the teachers considered older students to be more motivated than younger students. Most of the teachers indicated that it was not necessary to modify the content of materials because of the sex of the students. When asked what interest, either vocational or non-vocational, students have, the teachers said a wide assortment of interests and no clear trends could be determined. With respect to the interest of the adult illiterate, exactly half of the teachers stated that their students had never indicated what they would like to read.

Student dropout.- The teachers indicated that students very rarely leave programs because of the materials used. The reasons students give for dropping out are primarily related to personal and home problems. Identifying the potential dropout is most difficult. The one factor which was thought to give the best indication of dropout is irregular attendance. Some teachers indicated that nothing special was done to prevent dropouts, while the majority of the teachers indicated that telephone calls, post card reminders, case workers, and counselors were employed to prevent dropouts.

Student characteristics.- A majority of teachers did not believe that age was related to the ability to learn. However, among the minority who believed differently, there was agreement that older students are less able. A majority considered the attention span of an adult illiterate to be longer than had been supposed. The teachers were in agreement that students in adult literacy classes generally have a smaller speaking vocabulary than the general population. They also considered adult students to use sub-standard English. A majority indicated that more than 300 hours of instruction would be needed to bring a totally illiterate adult to a sixth grade reading level.

Classroom management and procedure.- Most teachers indicated the traditional class period of 50-60 minutes to be appropriate for adult reading classes. Rules of conduct and dress need not be developed. Half of the teachers interviewed thought that speech mannerisms interfered with instruction. This problem was handled by referring the students to standard usage. Students do not object to being corrected if the correction is done with tact. A class size of twenty was considered to be the maximum with sixteen as the preferred maximum. Students were grouped, when possible, into comparable reading achievement levels, but classes typically will have to accomodate from one to three or four reading levels. Certificates of attendance, diplomas, promotions, personal praise, progress charts, and graded papers were mentioned as types of rewards adults received. Very few of the teachers interviewed were familiar with the "experience approach" in education; only two had used it.

Evaluation of materials.- Most of the teachers interviewed were using materials designed for children. Over one-half of the teachers indicated a belief that the content of materials being used were appropriate for their students. However, teachers which indicated content to be appropriate were using the same type of materials as teachers believing the content to be inappropriate. The teachers suggested that materials could be improved by avoiding childish stories, writing about adult activities and interest, making stories more realistic and practical, keeping stories short, and including more writing exercises. Several suggestions were given for types of subject matter to be included. About one-half of the teachers had heard their students complain about the materials used. Most of the teachers who used teacher's manuals considered them to be satisfactory and very few suggestions for improvements were offered. The teachers were divided in their evaluation of the adequacy of basic reading books, and no definite trend toward acceptance or rejection was apparent.

Physical characteristics of materials.- Most teachers thought illustrations were important to students. A majority of the teachers believed print size should be larger at first and later decreased in size. Although nearly half of the teachers believed the number of pages in a book made no difference, the remainder believed that smaller books are preferable. There seemed to be no feeling that small books were necessarily considered childish.

Structured Interviews and Testing of Adults in Basic and Functional Literacy Programs

Several students in adult basic education programs were interviewed and tested to supplement the information found in the literature and from the consultations. The interviews were concerned with the following areas: (1) educational and vocational background of student's family, (2) motives for learning and reading background, (3) reading and writing interest, and (4) vocational background, interest and expectations. In addition, two studies were conducted. Students were given interest inventories in one study and were tested for intelligence in the other. The interviews and the studies conducted will be summarized in this section. Additional and more comprehensive details, along with a description of the subjects, may be found in Appendix C.

Educational and vocational background of students' family.- Twenty of the students did not know how far their fathers had gone in school and fifteen did not know how far their mothers had gone. The parents of those who did know had attended school until the ninth grade or less. Thirty-two indicated their fathers could read and thirty-seven indicated that their mothers could read. Nine reported their father could not read and seven reported their mother could not read. The remainder did not know whether their parents could read or not.

The student's parents had worked at a variety of jobs most commonly at the unskilled and semi-skilled levels. Nearly half of the parents had been farm workers.

Motives for learning and reading background.- A variety of specific reasons for learning to read were given by the students. These reasons were grouped into categories by judges. The two receiving the most assignments were direct vocational reasons and various non-vocational reasons. Vocational reasons were such direct statements as "to get a better job" or "need it for work." Such statements as "want to improve myself," "want to stop depending on others," and "want to be better educated" were categorized as non-vocational reasons.

Irregular school attendance or early exit from formal schooling were implied reasons used to explain the students' lack of reading proficiency. Home and family reasons and reasons not directly related to schools predominated to explain the irregular attendance or early exit from school. The strongest implication was that the students had to work to help their families.

Problems arising from the inability to read were indicated to be vocational, emotional, and various other specific complaints. The emotional category included such responses as "being ashamed," being afraid," etc. The specific complaints category included such responses as "can't read the Bible," can't go places," "depend on others," etc.

Reading and writing interest.- The type of stories the students liked to read most were in the categories of general information and practical information and skills. Examples of the topics listed under the various categories may be found in Appendix B . A vast majority of the students found the materials used in class to be interesting. When asked what stories in particular they liked, their responses were for the most part in the general information and practical information and skills categories again. Most students were not able to give examples of stories they did not like. The few who did, gave examples which included grammar and language development. The students indicated that they would prefer reading books with pictures, but it did not matter about the "race" of the people in the pictures. The students also indicated that they would rather learn to write in cursive letters than in manuscript letters.

Vocational background, interests and expectations.- The students interviewed had held a wide variety of jobs predominately at the unskilled and semi-skilled levels, such as janitor work, construction work, farm worker, etc. Only a few had been self-employed.

Several of the questions were designed to elicit expressions of vocational interest. The majority of the students in the study were able to express themselves concerning things they had liked and disliked about previous jobs. They were also able to indicate specific things they "looked for" in a job, and could name specific occupations which they would choose if free to have any job they wanted. To prevent any misunderstanding, though, it should be pointed out that the students varied considerably in the degree they elaborated on their answers. Some gave only very brief statements, such as "want to work outside," while others were prepared to talk at length on any of the topics. While more detailed data may be found in Appendix C, the major findings were that interpersonal relationships, both with supervisors and peers, was a major consideration related to vocational interest.

In the absence of literature pertaining to the realistic expectations for future jobs and the consideration given to the future on the part of functional illiterates, answers were sought in a limited way, through the interviews with adults attending basic education programs. During the interviews the students were asked two questions which pertained to this point. The first question asked was, "What kind of job would you choose if you could have any job you wanted?" Even though students were free to state choices without particular restrictions of reality, most students indicated choices within reasonable limits of expectancy. The impression was that those indicating choices most likely beyond reasonable levels of expectancy recognized the fantasy element in their responses, and harbored no real expectancy of achieving their choices. (See Appendix C)

The second question asked was "What kind of job do you think you will have ten years from now?" The students varied considerably in their employment expectations for ten years hence, but their expectations were generally realistic. However, it was apparent that at least half of the students had given no thought to what they might be doing ten years later. Many of those able to answer the question seemed to be thinking about it for the first time.

Interest Inventory Study.- This study was a part of a larger study to investigate the reliability of pictorial interest inventories compared with inventories which were to be read.* Half of the subjects were given the _Geist Picture Interest Inventory_ (G.P.I.I.) and the _California Picture Interest Inventory_ (P.I.I.). The other half were read verbal descriptions of the pictures of activities in these instruments. The purpose of the study was to investigate the advisability of picture interest inventories with adult illiterates as compared with inventories which were read to the adults.

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*Blake, Richard H. _A Comparison of Test-Retest Reliability of Picture and Verbal Forms of Occupational Interest Inventories_. Unpublished doctoral dissertation. Columbia, Missouri: University of Missouri. 1966.

Findings are presented in Tables 16, 17, 18, and 19. The test-retest correlations for Group I on the 11 scales of the G.P.I.I. were all significant for zero at the .01 level. They were not, however, very high. They ranged from .12 to .79. All test-retest correlations for Group I on the P.I.I. were significant except for scale six, "scientific." As was true on the G.P.I.I. most of the correlations were not high. The test-retest correlations for Group II on the G.P.I.I. were significant on all scales except scale 2 "clerical." Test-retest correlations for Group II on the P.I.I. were also all significant except for one scale, scale nine, "time perspective."

Tables III and IV indicate that neither of the forms, picture or verbal, was significantly more reliable than the other. This finding was true for both inventories. Orally presented verbal items were shown not to be significantly different in terms of test-retest reliability than the picture items.

Further study with adult poor readers using such instruments as the M.V.I.I. or the Kuder Preference Record-Vocational with items being read to the subjects would seem justified. As previously stated the question of the validity of these inventories administered to such subjects in this non-standard manner had not yet been determined. However, it does appear that verbal items per se are not necessarily less reliable than non-verbal (picture) interest inventory items.

Table 16

Test - Retest Correlations for Basic Education Students On The G.P.I.I.

Scale	Group I			Group II		
	n_1	r_1	P*	n_2	r_2	P*
1	37	.63	.01	38	.45	.01
2	37	.43	.01	38	.36	
3	37	.79	.01	38	.71	.01
4	37	.72	.01	38	.72	.01
5	37	.45	.01	38	.68	.01
6	37	.77	.01	38	.77	.01
7	37	.64	.01	38	.53	.01
8	37	.75	.01	38	.63	.01
9	37	.63	.01	38	.65	.01
10	37	.76	.01	38	.42	.01
11	37	.42	.01	38	.56	.01

* Significance from zero on a one tail test.

Table 17

Test - Retest Correlations for Basic Education Students On The P.I.I.

Scale	Group I			Group II		
	n_1	r_1	P*	n_1	r_1	P*
1	35	.65	.01	36	.72	.01
2	35	.89	.01	36	.81	.01
3	35	.77	.01	36	.64	.01
4	35	.84	.01	36	.74	.01
5	35	.63	.01	36	.73	.01
6	35	.41		36	.72	.01
7	35	.64	.01	36	.59	.01
8	35	.76	.01	36	.58	.01
9	35	.65	.01	36	.29	

*Significance from zero on a one tail test.

Table 18

Significance of Difference Between Group I Correlations and Group II Correlations For Basic Education Students On The G.P.I.I.

Scale	Group I		Group II		Z Value +
	r_1	n_2	r_1	n_2	
1	.63	37	.45	38	1.09
2	.44	37	.36	38	.37
3	.79	37	.71	38	.75
4	.72	37	.72	38	.00
5	.45	37	.68	38	-1.39
6	.78	37	.77	38	.05
7	.65	37	.53	38	.76
8	.75	37	.63	38	.99
9	.63	37	.65	38	- .13
10	.76	37	.42	38	2.28 *
11	.42	37	.56	38	- .75

+ Fishers Z' transformation test to determine Z.

* Significant difference between r_1 and r_2 at the .05 level.

Table 19

Significance of Difference Between Group I Correlations and Group II Correlations For Basic Education Students On The P.I.I.

Scale	Group I		Group II		Z Value +
	r_1	n_1	r_2	n_2	
1	.65	35	.72	36	- .53
2	.89	35	.81	36	1.34
3	.77	35	.64	36	1.06
4	.84	35	.74	36	1.030
5	.63	35	.73	36	- .800
6	.41	35	.72	36	-1.95
7	.64	35	.59	36	.35
8	.76	35	.58	36	1.31
9	.65	35	.29	36	1.91

+ Fishers Z' transformation test used to determine Z.

* Z value of 1.96 required to show significant difference at the .05 level.

Intelligence testing.- In an effort to further substantiate the information found in the literature and the opinions of people consulted, several adult illiterates were given a verbal intelligence test. An estimated verbal intelligence score was derived by using three sub-tests of the WAIS: vocabulary, similarities, and information. The data obtained are presented in Table 20. The mean estimated WAIS Verbal IQ for the thirty-four subjects was 77. The standard deviation was eleven. The scores ranged from 59-100. These data lend support to the generally held opinion that adult illiterates generally have below average intelligence.

Table 20

Estimated Verbal Intelligence Quotient, Sex, and Age of Thirty-Four Students in Adult Basic Literacy Classes

Student	Sex	Age	Inf. *	Sim. *	Voc. *	Estimated Verbal I.Q.
1	F	35	6	10	9	90
2	F	41	5	7	4	72
3	F	42	5	6	4	72
4	F	46	7	6	6	80
5	F	47	6	6	7	80
6	F	59	4	5	6	75
7	F	34	6	6	**	76
8	F	38	5	1	5	62
9	F	48	9	8	8	92
10	F	44	11	8	11	100
11	F	53	7	7	10	90
12	M	18	5	8	8	85
13	M	24	7	10	6	87
14	M	20	5	8	6	79
15	M	20	6	6	5	75
16	M	32	4	6	5	70
17	M	25	5	2	4	62
18	M	33	7	6	9	83
19	M	29	8	9	8	89
20	M	44	7	6	5	76
21	M	36	6	6	7	76
22	M	42	4	4	4	64

Table 20 Continued

Student	Sex	Age	Inf. *	Sim. *	Voc. *	Estimated Verbal I.Q.
23	M	53	6	6	6	78
24	M	52	9	**	5	84
25	M	54	9	5	8	86
26	M	59	8	7	6	86
27	M	22	0	0	1	43
28	M	23	5	6	5	73
29	M	24	6	9	5	81
30	M	26	7	9	7	85
31	M	36	5	7	2	68
32	M	52	4	**	4	66
33	M	57	6	5	5	77
34	M	62	3	3	1	59

* Scale Scores
** Not administered

Results of the Nationwide Questionnaire Survey of the Opinions of Teachers and Directors of Adult Basic Education Programs

Introduction

The purposes of the nationwide survey of teachers and directors of adult basic education programs were to seek information relative to (1) the type of experience background, preparation in reading and level of education teachers should have; (2) the personal characteristics, motivations, potential, and handicaps of adult students; (3) the length of class period, size of class, testing and measurement procedures, and dropout in programs; and (4) the materials being used, importance of illustrations, most acceptable print for reading materials, and type of writing style which should be taught. The opinions of directors of adult basic education programs were collected pertaining to the best sources of teachers and on the length of time to bring an illiterate student to the sixth grade level of reading ability with miscellaneous questions pertaining to the programs. A summary of the results follows. Data from which these results were derived are presented in Appendix D.

Summary of Findings

Returns Received.- Of the 500 questionnaires sent to teachers in adult basic education programs 227 (45 per cent) were returned and of these 201 were useable. Each United States census area was represented in the useable returned with the largest number (66) returned from Area III and the smallest number (1) returned from Area X. The returns approximated a 35 per cent random sample except for Area X. Of the ninty-seven directors polled, returns were received from seventy-seven, sixty-eight of these were useable.

Findings from Directors Questionnaire.- The directors of adult basic education programs reported 42 programs sponsored by the Economic Opportunity Act, Title II B; 25 programs sponsored by public schools; 10 programs sponsored by the Manpower Development and Training Act; and 3 programs sponsored by Aid to Families with Dependent Children (A.F.D.C.). The remainder, with one program sponsored by each agency, included prison, mental hospital, state department of education, Department of Labor, and Economic Opportunity Act, Title V.

When asked the length of the literacy education program they were directing, directors' reports ranged from "less than 10 weeks," (1) to continuous (6) with eleven programs of 10 to 19 weeks in length, twenty programs of 20 to 29 weeks in length, fifteen programs of 30 to 39 weeks in length, and nineteen programs of 40 or more weeks in length.

The predominant number of directors (47) reported that literacy classes met two times per week. Fifteen classes met three times per week and 19 met five times per week. By far the most prevalent length of class period was from two to three hours, as reported by 63 respondents. That teachers in literacy education programs receive compensation was reported by 67 of the 68 respondents.

Students were reported to be grouped when assigned to literacy classes on the basis of testing (41), students interviews and teacher recommodations (18), and according to last grade completed in school (7).

About equal numbers of directors, 36 and 32 respectively, reported that literacy education teachers were or were not provided preservice training for the program. The topics covered in the preservice training programs included orientation to the program, philosophy of adult basic education, understanding the undereducated adult, materials to be used, methods of teaching adults, and administrative procedures.

The directors indicated that the best source of background for literacy education teachers were elementary school teachers, with 53 of the 68 directors reporting this consideration.

Fifty per cent (34) of the directors indicated that more than 300 hours of instruction would be required for a completely illiterate person to achieve a sixth grade reading level. This response assumed the ideal conditions of motivation and attendance for a person of slightly below average intellectual ability. The remainder of the responses were about evenly distributed between 141 and 300 hours of instruction required.

Procedures reported as being used to locate students for literacy education programs included public new media (47), governmental agencies (42), religious organizations (30), personal contact (29), schools (12), civic organizations (9) and miscellaneous (16). Television, radio, and newspapers were the most popular of the news media and contacts with offices of civic organizations, government agencies and religious organizations were the most prominent modes of recruiting students.

Only five directors reported that students in literacy education programs were charged fees. In 64 cases no fees were charged for literacy classes.

Findings pertaining to teachers from the teacher questionnaire.- Two hundred-one teachers of adult basic education classes responded to the questionnaire. The median age of all teachers was 40.6 years and for men 31.6 years and women 43.3 years. Fifty-seven per cent and 43 per cent had been teaching in the present program less than six months and more than six months respectively. Sixty per cent of the teachers taught one class, twenty per cent taught two classes and nine per cent taught three classes. The remainder taught more than three classes in the program. Eighty-four per cent of the teachers responding reported having completed from one to six or more college credit hours in courses in the teaching of reading. Seventeen per cent indicated that no courses in the teaching of reading had been completed. However, 93 per cent of the teachers were of the opinion that having a course or courses in the teaching of reading was desirable.

Eighty-three per cent of the teachers had had elementary school teaching experience and eleven per cent reported having secondary school teaching experience. Only 27 per cent of the teachers had had prior experience with teaching adults and only 17.5 per cent indicated experience in adult literacy education classes.

Findings pertaining to students from the teacher questionnaire.- Teachers reported that the adults in the literacy class they were teaching ranged in age, for the youngest group from 15 to 33 and for the older group 25 to 83--medians were 20.3 years and 57.3 years respectively.

Fifty-three per cent of the 4,648 students reported for the classes taught were male students.

The teachers reported that the rapid progress in classes was made by students 45 years of age or younger, with the age group 21 to 30 reportedly making the most rapid progress. Male students were given a higher progress rating than female students. The age group 46 to 60 were reported to make the slowest progress.

When asked which age group seem to be most highly motivated to learn to read, the teachers reported the greatest motivation was found in the age groups 21 to 30 and 31 to 45 years of age. Motivation to learn to read was found to be the same for both male and female students. The groups least motivated to learn to read were those under 21 years of age and those from 46-60 years of age.

The levels at which students were reading when they entered the classes taught by the responding teachers ranged from grade one level or below to grade six level as follows: grade 1, 17 per cent; grade 2, 12 per cent; grade 3, 16 per cent; grade 4, 19 per cent; grade 5, 16 per cent; and grade 6, 20 per cent. Teachers reported in over 56 per cent of the responses that more than 300 hours of instruction would be required for a totally illiterate student of slightly below average intelligence to achieve a sixth grade reading level assuming optimum motivation.

When quiried relative to handicaps to teaching students in the classes to read, the teachers reported for 8,277 students. The most prevalent handicaps were substandard use of English, 20 per cent; restricted speaking and listening vocabulary, 18 per cent; irregular attendance, 14 per cent; and low intellectual ability, 12 per cent. Miscellaneous handicaps ranging in response frequency from seven to two per cent were lack of motivation, vision problems, too short attention span, too large class size, lack of adequate instructional materials, physical handicaps of students, hearing defects speech defects, and other.

When asked what specific motivations to learn to read and write were found among students who voluntarily entered the program, teachers mentioned vocation related motives 143 times with "get a better job" mentioned 79 times. Motives related to daily living were mentioned 173 times with major expressed interests in wanting to read and write letters (55), read newspapers (52), and pass driver's test (22). Motivations related to personal improvement were mentioned 148 times with major expressed interests in wanting to read the Bible (31), get a high school diploma (28), personal improvement (26), and learn to read English and communicate (pass citizenship test (15). Family related motivations were mentioned 68 times, with "helping the children" mentioned 42 times and "doesn't want the family to feel ashamed" mentioned 16 times. Recreational reading as a motive was mentioned 11 times. According to frequency of response of teachers polled, voluntary students in their classes expressing a general desire for self-improvement, ranged from 0 per cent to 100 per cent, the median being 49.8 per cent.

Findings pertaining to program from the teachers' questionnaire.- With respect to the maximum period of time suitable for a single reading class session, the teachers' opinions varied considerably. Fifty-five per cent indicated 41 to 60 minutes and 87 per cent would not exceed 90 minutes for the period of instruction. The great majority of the teachers, 85 per cent, believed that a class size of 5 to 19 students would permit adequate instruction with a class size of 10 to 14 most highly favored.

Teachers, when asked which types of tests should be administered to adult students prior to their receiving instruction, most frequently indicated that achievement tests and vocabulary level tests should be used. Intelligence tests and interest inventories ranked third and fourth. However, a majority of the teachers thought that valid test results were not generally attainable.

The dropout from the classes taught by teachers who responded to the questionnaire was reported as 1,305 out of a total of 5,492 or 24 per cent. Teachers responses indicated that the two significant factors affecting the dropout rate were family and personal crises and time conflicts due to work. Other factors were not considered significant by the respondents.

Findings pertaining to materials from the teacher questionnaire.- When teachers were asked to list the published materials they had tried in their basic education classes and rank the materials as to effectiveness, 193 different publications were listed. Fifty-one of the publications were written on the adult level. Most of the adult level materials were rated as effective for use in teaching adult illiterates.

Topics which teachers believed to be of high interest to adults were numerous. Those most frequently mentioned included current events (84); social security (29); how to manage money (52); information on tax returns (28); automobile insurance (20); homemaking (48); state, local, and national government (37); mechanics (20); filling out applications and forms (19); personal grooming (11); history (37); biographies (37); stories of other countries (28); science-plants and animals (21); and sports and recreation (13). Topics most frequently reported by teachers to be inappropriate for adult literacy materials were books about childrens' experiences (22); technical or abstract topics (15); childrens' books (13); controversial religious issues (13); and topics that made them feel inferior (6).

Two-thirds of the teachers responding indicated that the content of the materials was a contributing and major factor in successful teaching of illiterate adults. Twenty per cent considered the content to be the primary factor. Fifty-four per cent of the respondents indicated that illustrations are helpful and should be used throughout the materials at all levels. Thirty-nine per cent believed that illustrations were more helpful at the lower levels than at the upper levels.

Limitations of the survey.- Although the results of the nationwide survey of teachers and directors of adult basic education programs yielded helpful information in the development of the materials accomplished in the project, no claims can be made that the sample of returns received and analyzed represent the entire population of teachers adult literacy classes in the United States. The usual weaknesses of the questionnaires, e.g., interpretation of questions, respondents' lack of knowledge of the substance of the question, and varied competence of the respondents, tend to limit the usefulness of the data. However, most of the information received tended to confirm the results obtained from the interviews held with teachers and adult basic education students which are reported in this chapter.

Materials Development Phase

The result of this research project is a series of six instructional booklets and nine supplemental vocational booklets. Two innovative features of these materials were provided for in the original proposal: first, the use of the initial teaching alphabet; second, the use of adult-oriented material.

The first innovative feature was to introduce the reading process through the medium of the initial teaching alphabet. If the lack of a point-to-point relationship is a deterrent to the learning of young children, as research seems to indicate, it was assumed that it would be equally true for adults. Since some studies were beginning to show that the augmented alphabet was proving effective in the teaching of the six-year-old, it was thought worthy of a trial with the older learner.

Adult-oriented material was the second innovative feature of these materials. Unless adult learners are highly motivated to learn to read, it was assumed that stories of six- and seven-year-olds would have little intrinsic appeal. Subsequent study of adult interests (discussed elsewhere in this report) revealed that their concerns were with the world of work, social security, insurance, buying automobiles, family problems, child care, etc.

The development of themes such as these into reading content would accomplish two ends. It would provide the medium through which the student could learn to read, write and spell. It would also provide useful and significant information, thus providing for both growth in and through reading.

The blueprint for the materials called for a basic program organized on three levels, an intermediate level of three levels and nine supplemental vocational booklets. The schematic design for the program is printed elsewhere in this report.

Level I, the initial teaching level, was designed to initiate the reading process and to introduce the 44-symbol initial teaching alphabet. The characters of i.t.a. are introduced in an integrated fashion through reading and handwriting exercises. Instruction in letter formation begins in the second story and continues to the last selection. Every sixth lesson is a review lesson which reinforces the words and letters taught in the five previous lessons. Exercises in auditory and visual discrimination are presented in worksheet form in Level I. These worksheets are part of the Level I booklet, found in pages 43 through 66.

The nineteen stories in Level I introduce the Bates family: Bill, Mary and their children, Mike, Lou, and Joe. The stories tell of the Bates' living and working in an urban setting, visiting relatives in the country, having these relatives for a visit to the city and convincing the oldest son to remain in high school.

Level II, a plateau level, was designed to develop fluency in reading via the i.t.a. medium. The worksheets are discontinued in Level II, but the development of word perception skills is continued, being presented in the teacher's manual as blackboard exercises. Certain useful consonant blends are introduced, as are selected word endings. Continued emphasis is given to word building exercises making use of consonant addition and/or substitution in both initial and final positions.

There are twenty-two stories in Level II. The first eight selections were adapted from a U.S. Government publication. They tell the story of Joe Wheeler as he goes from employment to be unemployed, to job-training school, and his return to employment. Joe also learns about social security.

Other selections deal with home and highway safety, car insurance, how to buy a used car and school-related problems.

Level III has been designed to continue and conclude the gradual transition from i.t.a. to traditional orthography. To facilitate reading fluency as well as transfer the vocabulary is controlled in this level so that there are no new words in the first five selections. In stories six through twelve no more than thirteen occur in any one story. In stories thirteen through sixteen, when the student is concerned with the t.o. material, no more than five new words per story are introduced.

Much of the skill development in Level III deals with the establishment of phonic transfer patterns from i.t.a. to t.o. For example, in i.t.a. the "a-e" pattern (as in hate, came, make) has utilized the æ symbol (hæt, cæm, mæk). A teaching procedure for making this transfer is introduced in lesson six, and the same procedure is used throughout this level in establishing relationships in thirty-four different situations.

Another feature of the materials which was designed to facilitate the transfer from i.t.a. to t.o. is the use of a facing page. Beginning with story six on Level I, the facing page of each lesson shows the i.t.a. content written in t.o. The lesson plan suggests that the teacher call attention to the fact that many words are spelled and written the same in t.o. as they are in i.t.a. Other words are only slightly different, while a few are considerably different.

This use of the facing page should do two things for the learner. It should begin the transfer process early in the instruction, in an incidental and gradual manner, and it should reassure the student that i.t.a. is only the means to the t.o. end.

At intervals throughout Level II the content is presented both in i.t.a. and t.o., as it was in Level I. However, while in Level I there was no planned instruction with the t.o. facing page, in Level II the student is directed to attempt the t.o. version of the i.t.a. material, first using immediate recall and subsequently delayed recall.

On Level III all content is written in t.o. while the facing page shows the same material in i.t.a., a reversal of the Level I procedure. In Level III the pupil uses the i.t.a. facing page only as an aid if he meets words or phrases he cannot perceive in traditional orthography. Toward the end of Level III the i.t.a. facing pages are discontinued, with difficult words being placed in a glossary.

While Level III presents instructional patterns for directed transfer from i.t.a. to t.o., transfer is actually built into the materials from the beginning in the form of the facing page.

Handwriting instruction in Level III introduces upper case t.o. letters and the "k" and "q" symbols, which have not been used in i.t.a. Spelling lessons continue, with the added feature of sentence dictation.

Level III contains twenty-eight stories. The content of these stories is concerned with automobile driving, insurance, school, public welfare, voting, budgets and checking accounts.

Levels IV, V and VI are printed in t.o. The student is still exposed to new words, and when these appear they are printed in i.t.a. at the back of the book. It is hoped that the student's knowledge of the transfer patterns, consonant blends and his work with consonant addition and substitution will make these i.t.a. spellings unnecessary. However, these words are printed as final sources.

This intermediate level (IV, V and VI) has been designed to give the reader more refined instruction in directed reading, comprehension and interpretation, spelling and vocabulary growth.

Level IV content is very vocationally oriented. The selections are concerned with job selection, working conditions, securing a job. Level V introduces the supplemental booklets. Other selections in this level are more general in nature as they discuss the basic needs of life, important industries and American inventions. Level VI deals briefly with the formation of the United States, voting, quality and quantity buying and highway driving.

The first story in Level V introduces the nine vocational booklets that are designed for supplemental reading. These booklets are "supplemental" in that they are to provide the student with an opportunity for reading on his own. No directed lessons accompany these booklets because this is not their purpose.

These booklets make no claims of providing complete job descriptions. They serve as good introductions to various jobs which may be of interest to the student. The specific jobs selected for these booklets were not arbitrarily assigned, but were chosen in light of the interests expressed by non-readers, which have been described elsewhere in this report.

Each booklet outlines the history of the job, the job as it is today, the duties of the job, the chance one may have for advancement, the salary one might expect to receive, the working conditions of the job, the qualifications and preparation necessary for the job and some suggested steps one might follow in getting (or looking for) the job.

Below is a complete list of the story titles for Levels I through VI and the titles of the nine vocational booklets:

Level I

Title

1. Bill Bates
2. Mary Bates
3. An Apartment Building

Level I continued

Title

4. The Children
5. Work, Work, Work
6. The Ride to Work
7. To Work and School
8. The Bates at Home
9. After Supper
10. A Bus Ride
11. Sunday in the Country
12. The Farm
13. When Do We Eat?
14. Mike Wants to Quit School
15. You Have to Finish School
16. Help for Mike
17. A Visit to the City
18. The Zoo
19. Car Trouble

Level II

Title

1. Joe Wheeler Gets a Job and a Social Security Card
2. Joe Learns about Social Security
3. Joe's Job at the Shoe Factory
4. Joe Has to Look for a New Job
5. Joe Goes to School and Studies
6. Joe Goes to a Job-Training School and Gets a New Job
7. Joe's Social Security Protection
8. Trouble With Arithmetic
9. A Good Place to Study
10. Paul Has Trouble
11. A Test For Paul
12. Another Test For Paul
13. A Dangerous Game
14. Read the Label
15. Food Poisoning
16. It Sure Was a Mess
17. Mistakes on the Road
18. Safety in the Car
19. If You Have an Accident
20. Buying a Used Car
21. Reading a Contract
22. Bill Finds Out About Car Insurance

Level III

Title

1. Bill Learns About Cars
2. Know Your Road
3. What Would You Do?
4. More Help For Paul
5. The Money Doctor
6. Ready To Go
7. Who Pays For It?
8. A Man For The People
9. Sam's Paycheck
10. The Works Learn About Public Welfare
11. A Mother Who Needs Help
12. Old-Age Assistance
13. Aid to Dependent Children
14. Aid to the Disabled
15. General Relief
16. Aid to the Blind
17. How to Apply
18. Buying on Time
19. Life Insurance
20. Safer Than Money
21. Keeping a Budget
22. A Vacation for Sam Weeks
23. Keep Talking
24. He Was The First
25. Do You Do Your Part?
26. John F. Kennedy
27. Getting Out The Vote
28. Know The Men and The Issues

Level IV

Title

1. Early Man and The Basic Needs of Life
2. Will Just Any Job Do?
3. Fringe Benefits
4. A Steady Job
5. Good Working Conditions
6. Training is Important
7. Physical Activity on the Job
8. Can You Get a Promotion?
9. Jim is Out of Work
10. Jim Looks for a Job
11. Help Wanted Ads

Level IV continued

Title

12. A Letter From Fred
13. The Private Employment Agency
14. Ted Thought Ahead
15. How to Fill Out an Application Form
16. An Application for Employment
17. Jim Has an Interview
18. Cold Potatoes
19. Late Again
20. Think About It, Carl

Level V

Title

1. Some Reading For You
2. Goods and Services
3. People Live Longer Today
4. Education is Important
5. The Vocational Rehabilitation Program
6. Working for the Government
7. Labor Unions
8. From Smoke Signals to Television
9. More Women are Working
10. The Food Industry
11. Shelter--Past, Present and Future
12. Talking Through Wires
13. The Railroad Industry
14. The Wright Machine
15. Rockets to the Moon
16. He Had an Idea
17. A Head Full of Ideas
18. George Washington Carver
19. Eli Whitney
20. The McCormick Reaper
21. Putting His Money to Work

Level VI

Title

1. An Important Accident
2. They Showed It Could Be Done
3. Making the States United
4. The Legislative Branch
5. The Executive Branch
6. The Judicial Branch

Level VI continued

Title

7. Changes in the Constitution
8. The Bill of Rights
9. Two Important Amendments
10. Every Right Has a Responsibility
11. Voting Directions
12. Making a Budget Work
13. The Wise Shopper
14. Quantity in Food Buying
15. Quality in Food Buying
16. The Driving Test
17. Road Signs
18. Traffic Signs
19. Map Reading
20. The Telephone Directory
21. Getting Ready for School
22. Reading Can Be Fun

Vocational Booklets

Title

1. So You Want to be a Waitress
2. So You Want to be a Hotel and Restaurant Cook
3. So You Want to be a Salesperson
4. So You Want to be a Service Station Attendant
5. So You Want to Work in the Clothing Industry
6. So You Want to be a Nursing Attendant
7. So You Want to be a General Machine Operator
8. So You Want to be an Automobile Mechanic
9. So You Want to be an Appliance Serviceman

Evaluation Phase Results

The evaluation phase consisted of a field trial of the materials developed as described in Chapter II. There were two types of evaluation carried out during this phase. The first was an objective pre- and post-testing of the students using selected parts of the Stanford Achievement Test, Primary II Battery, Forms W and Y. The second type was anecdotal records to be kept by the three teachers involved.

Pre- and Post-Testing.- The purpose of the pre- and post-testing was to obtain objective data to help determine the effectiveness of the materials developed. The pre- and post-tests were given in t.o. The instruction given to the students was in i.t.a. following the patterns developed in the teacher's manual for levels I, II, and III.

Due to the press of time, a complete testing of all six levels developed was not possible. To fully determine the effectiveness of the materials this needs to be done. However, it was decided to test only the first three levels since these levels incorporated the unique characteristic of instruction via i.t.a.

A further limitation may be found in the amount of time spent in class each week. Due to organizational problems it was not possible for each class to meet for the same amount of time each week. As stated earlier, the classes in Columbia, Jefferson City, and Moberly met one, two, and four times each week, respectively. This organization, of course, resulted in the students being at different levels of instruction at the time of post-testing.

A third limitation may be found in the inexperience of two teachers in teaching adults. In addition, one of these teachers has had no preparation in the teaching of reading. This teacher brought no prior preparation or experience in the teaching of reading to the teaching situation and consequently could do little to supplement the basic teacher's manual.

The hypothesis to be tested stated in the null form was that the difference in pre- and post-testing for Word Meaning, Paragraph Meaning, Spelling, and Word Study Skills does not differ from 0 (.05 level). The alternative hypothesis was stated that the difference in pre- and post-testing would be greater than 0 (.05 level). The test statistic used was the t test for a dependent sample is found in Johnson and Jackson.

Statistical Analysis

Moberly.- The post-testing at Moberly was given at the completion of approximately 75 hours of reading instruction in i.t.a. At this point the students were into Level III, but had not completed the instruction designed to transfer the students from i.t.a. back into t.o. Table 21 presents the pre- and post-test data along with the increase or decrease in scores. Table 21 may be found on page 180.

On the statistical analysis this data reveals the following:

1. The mean increase for Word Meaning is 1.2 years which is a significant increase at the .01 level. The null hypothesis is not supported.

2. The mean increase for Paragraph Meaning is .5 years which is significant at the .05 level. The null hypothesis is not supported.

3. The mean increase for Spelling is 1.5 years which is significant at the .01 level. The null hypothesis is not supported.

4. The mean increase in Word Study Skills is 3.2 years which is significant at the .01 level. The null hypothesis is not supported.

Table 21
Achievement Pre- and Post-Test Results: Moberly Class +

Name	Word Meaning			Paragraph Meaning			Spelling			Word-Study		
	W	Y	D	W	Y	D	W	Y	D	W	Y	D
J.A.	2.6	3.8	1.2	2.1	1.6	.5	2.4	3.2	.8	1.6	6.5	4.9
S.M.	1.8	2.8	1.0	1.7	2.3	.6	1.5	3.6	2.1	1.1	4.7	3.6
W.P.	1.7	2.5	.8	1.7	2.0	.3	2.4	3.7	1.3	1.0	5.6	4.6
O.G.	1.3	2.7	1.4	1.0	1.6	.6	1.3	3.0	1.7	-1.0	3.3	2.3
R.B.	1.3	2.5	1.2	1.1	2.0	.9	2.5	3.5	1.0	1.0	4.7	3.7
E.O.	-1.0	2.3	1.3	-1.0	1.8	.8	-1.0	2.3	1.3	-1.0	3.1	2.1
H.S.	-1.0	2.5	1.5	-1.0	1.8	.8	-1.0	3.0	2.0	-1.0	2.4	1.4
Total			8.4			3.5			10.2			22.6
	M_d = 1.2			M_d = .5			M_d = 1.5			M_d = 3.2		
	df = 6			df = 6			df = 6			df = 6		
	t = 13.33*			t = 2.75*			t = 8.06**			t = 6.40**		

* Significant at .05 level $t_{.05} = 2.447$
** Significant at .01 level $t_{.01} = 3.707$
- Students did not answer any item correct and were assigned lowest score.
+ Form W administered January 23-24, 1967
Form Y administered June 19-20, 1967
(Approximately 75 hours of instruction)

Columbia.- The post-testing of the Columbia class, which had met only once each week, was given at the completion of approximately 25 hours of instruction in i.t.a. The Columbia class was approximately half-way through Level II. The emphasis in Level II is placed upon fluency in i.t.a. and no attempt had been made to facilitate transfer to t.o. Table 22 presents the data for the pre- and post-test along with the increase or decrease in scores. Table 22 may be found on page 181.

The statistical analysis of this data reveals the following:

1. The mean increase in Word Meaning is .4 years which is not significant at the .05 level. The null hypothesis is supported.

Table 22

Achievement Pre- and Post-Test Results: Columbia Class +

Name	Word Meaning			Paragraph Meaning			Spelling			Word-Study		
	W	Y	D	W	Y	D	W	Y	D	W	Y	D
M.J.	1.8	2.1	.3	1.6	1.8	.2	3.0	2.8	- .2	1.0	1.4	.4
L.H.	2.8	3.6	.8	1.8	2.5	.7	4.8	3.6	- .8	1.2	2.5	1.3
T.H.	1.7	1.9	.2	-1.0	1.6	.6	2.2	2.8	.6	-1.0	1.4	.4
R.S.	2.1	2.3	.2	1.9	1.9	0	4.0	3.6	- .4	1.0	1.3	.3
B.W.	3.7	3.7	0	3.0	3.5	.5	3.5	3.8	.3	1.2	2.5	1.3
E.W.	1.2	2.7	1.0	-1.0	1.8	.8	2.0	2.5	.5	1.0	1.2	.2
Total			2.5			2.8			0			3.9
	M_d = .4 df = 5 t = 2.50 NS			M_d = .5 df = 5 t = 4.00*			NS			M_d = .7 df = 5 t = 3.38*		

NS Not significant

* Significant at .05 level $t_{.05} = 2.447$

- Students did not answer any item correct and were assigned lowest score.

+ Form W administered February 3, 1967
Form Y administered June 15, 1967
(Approximately 25 hours of instruction)

2. The mean increase in Paragraph Meaning is .4 which is significant at the .05 level. It approaches significance at the .01 level. The null hypothesis is not supported.

3. The mean increase in Spelling is 0 years which is not significant. The null hypothesis is supported.

4. The mean increase in Word Study Skills was .7 years which is significant at the .05 level. The null hypothesis is not supported.

Jefferson City.- The first post-test at Jefferson City was given when the students had completed approximately 75 hours of instruction in i.t.a. and were ready to begin the transfer patterns. A few transfer patterns were introduced prior to the testing but were limited in number. Since this class was farther along than the other two, it was decided to continue for an additional two weeks to complete the instruction of the transfer patterns. In an effort to cover these patterns the teacher met with the two non-readers only, since they were the only ones willing to attend five nights a weeks. At the end of the two weeks the five members of the class were re-tested using Form W of the Stanford Achievement Test, which had been used as a pre-test five months earlier. The teaching procedure, by necessity, had to deviate from the format set down in the teacher's manual. Primary emphasis was placed on the transfer patterns and secondary emphasis on reading. Table 23 presents the data for the first post-testing along with the increase or decrease in scores. Table 24 presents the data for the second testing.

Table 23
Achievement Pre- and Post-Test Results: Jefferson City Class +

Name	Word Meaning			Paragraph Meaning			Spelling			Word-Study		
	W	Y	D	W	Y	D	W	Y	D	W	Y	D
G.C.	-1.0	-1.0	0	-1.0	-1.0	0	-1.0	1.3	.3	1.6	1.7	.1
W.B.	1.8	1.6	-.2	2.2	1.9	-.3	1.9	1.9	0	1.3	1.6	.3
M.L.	1.8	1.6	-.2	3.6	3.1	-.5	3.9	3.6	-.3	3.1	1.7	-1.4
J.A.	2.0	2.7	.7	1.9	1.7	-.2	2.3	2.5	.2	-1.0	1.2	.2
R.A.	-1.0	1.1	.1	-1.0	1.0	0	-1.0	-1.0	0	1.4	2.2	.8
Total			.4			-1.0			.2			0
	M_d = .08 df = 4 t = .62 NS			M_d = - .2 df = 4 t = 2.11 NS			M_d = .04 df = 4 t = .38 NS			NS		

NS Not significant
- Students did not answer any item correct and were assigned lowest score.
+ Form W administered January 30, 1967
Form Y administered June 15, 1967
(Approximately 75 hours of instruction)

Table 24

Achievement Pre- and Post-Test Results: Jefferson City Class +

Name	Word Meaning			Paragraph Meaning			Spelling			Word-Study		
	W	W	D	W	W	D	W	W	D	W	W	D
G.C.	-1.0	1.2	.2	-1.0	1.3	.3	-1.0	1.3	.3	1.6	1.5	- .1
W.B.	1.8	1.7	- .1	2.2	2.1	- .2	1.9	2.4	.5	1.3	1.5	.2
M.L.	1.8	3.2	1.4	3.6	3.6	0	3.9	4.6	.7	3.1	2.0	-1.1
J.A.	2.0	2.9	.9	1.9	2.3	.4	2.3	2.6	.3	-1.0	1.4	.4
R.A.	-1.0	1.4	.4	-1.0	1.3	.3	-1.0	1.9	.9	1.4	2.2	.8
Totals			2.8			.8			2.7			.2
	M_d = .6			M_d = .2			M_d = .5			M_d = .04		
	df = 4			df = 4			df = 4			df = 4		
	t = 2.27 NS			t = 1.82 NS			t = 4.167*			t = .625 NS		

NS Not significant
- Students did not answer any item correct and were assigned lowest score.
* Significant at .05 level $t_{.05} = 2.447$
+ Form W administered January 30, 1967
Form W again administered June 30, 1967
(Approximately 90 hours of instruction)

The statistical analysis of the data in Table 23 reveals the following:

1. The mean increase in Word Meaning is .08 years which is not significant. The null hypothesis is supported.

2. The mean decrease in Paragraph Meaning is .2 years which is not significant. The null hypothesis is supported.

3. The mean increase in Spelling is .04 years which is not significant. The hypothesis is supported.

4. The mean increase in Word Study Skills is 0 years which is not significant. The null hypothesis is supported.

The statistical analysis of the data in Table 24 reveals the following:

1. The mean increase in Word Meaning is .6 years, which approaches significance, but is not significant at the .05 level. The null hypothesis is supported.

2. The mean increase in Paragraph Meaning is .2 years which is not significant at the .05 level. The null hypothesis is supported.

3. The mean increase in Spelling is .5 which is significant at the .05 level and approaches significance at the .01 level.

4. The mean increase in Word Study Skills is .2 years which is not significant at the .05 level. The null hypothesis is not supported.

Anecdotal Records

Level I

Vocabulary Load.- The number of words introduced in each story does not present major difficulties. Apparently, the load per lesson is suitable for instructional purposes.

Content.- In general, the Level I story content is agreeable to the students. They express satisfaction with the adult-oriented materials.

The length of the stories is suitable for instructional purposes. Additional review stories for reading practice would be helpful. The illustrations are of little consequence to the adult students.

Introduction of Symbols.- The plan designed to introduce the forty-four i.t.a. symbols is sound. However, some method of developing to a higher degree the sound-symbol relationship concept is advisable. For example, a studied dictation process whereby the student would year, say and see the symbol as it is used in a word might be more beneficial than simply listening to the teacher pronounce the symbols and watching him write them on the board. Additional worksheets having a list of the new words for each lesson could facilitate the teaching of this concept.

The order in which the characters are introduced and the number of characters introduced per lesson are not prohibitive to learning. The only problem encountered is involved with the auditory discrimination exercises, discussed below.

Mastery of the forty-four symbols was not achieved by many of the students by the end of Level I, according to the test on pages 40 through 42 in the student's book.

Using one lesson to teach consonant sounds and two lessons to teach vowel sounds is feasible. But, more gross discrimination exercises are needed before instruction takes place which teaches a sound in initial, medial and final positions. Perhaps auditory discrimination could be taught in conjunction with worksheets (mentioned above in Introduction of Symbols) which would facilitate building the sound-symbol relationship.

More medial and final discrimination exercises are necessary, especially fine distinctions at the ends of words (e.g. "bed" and "bet").

Structural Skills.- The models for teaching the structural skills are adequate, but directions for each exercise should be given to the teacher in each lesson instead of referring the teacher to previous models.

Possibly, more work on blends would be beneficial since there was a tendency for some students to attempt to "sound out" the individual characters.

The consonant addition and/or substitution exercises are easily mastered by the students in an instructional situation. In the silent or oral reading situation, there appears to be very little use of these skills.

Worksheets.- More worksheets are needed, especially types intended to teach gross visual discimination. Additional worksheets where the student is to fill in the missing symbol are also needed.

The directions to the teacher are adequate, but it should be emphasized that the students need guidance of the most directive nature before they can understand what they are to do. Perhaps this extra direction might be better provided if the format of the worksheets were clearer: for example, numbering a row to show that the student is to work horizontally rather than vertically. In addition, correct responses on some of the worksheets follow patterns.

Handwriting.- The handwriting models are adequate, however, there is some question as to the value of writing symbols in isolation. Writing the symbols may not contribute to the student's learning them.

Spelling.- The students can easily handle more spelling words in Level I. Spelling could be introduced earlier, possibly as part of the handwriting exercises. Limiting the students to t.o. spellings at the Level I stage may impede their progress in mastering the i.t.a. characters.

Directed Reading.- The model is adequate but more specific questions to guide the students before they read would be helpful.

Transfer.- The facing page does teach the relationship between i.t.a. and t.o. Many students begin to notice t.o.-i.t.a. similarities with the first facing page in Level I, lesson seven. A facing page for each story is suggested because it appears that incidental transfer does take place.

Level II

Vocabulary.- Since the vocabulary is more involved in Level II, the vocabulary load becomes more difficult. The primary cause for this increased difficulty is that the words are longer and more of them are not within adult meaning limits. Pronunciation problems (e.g. "social security protection," "comprehensive") may add to this difficulty.

Appropriateness of Content.- The students are more outspoken concerning the Level II content. They express more interest in the stories and believe they are more meaningful. The length of the stories, which increases in Level II, is appropriate for most of the students, but individual differences become more obvious. The illustrations continue to receive no comment.

Structural Skills.- Teaching models are adequate; more examples might yield reinforcement. Little difficulty is encountered in teaching compound words, apostrophes, hyphenated words and the "t" and "d" endings which show past tense.

Worksheets.- Worksheets teaching certain structural skills would be helpful, perhaps supplying words or parts of words for incomplete sentences. Some of the students are pleased that they no longer have to do worksheets.

Spelling.- The spelling load is relatively easy. The pattern for introducing the words is adequate.

Directed Reading.- Since the content is more involved, more direction to the students before they read would help to establish more definite purposes for reading. The general discussion questions and suggestions are good. The comprehension and interpretation skills are well done. The students initiated more discussion in Level II.

Transfer.- The changes in the use of the t.o. versions of the stories further incidental transfer. Many students read both versions equally well.

Apparently the transfer work does not empded i.t.a. fluency, which is the goal of Level II. An objective measure of i.t.a. fluency at the end of Level II might be helpful before introducing the students to Level III.

Level III

Working under the handicap of a shortened field-trial period, it was not possible for all three classes to complete Level III, which was designed to transfer the students from i.t.a. to t.o. When it was determined that not enough time would be available for the completion of Level III by all three classes, the decision was made to maintain the Columbia and Moberly classes at their present rates of instruction while the Jefferson City class was to increase its rate of study.

This decision made it necessary for the Jefferson City instructor to greatly modify his teaching approaches. Primary emphasis was placed upon the teaching of the transfer patterns found in Level III; secondary emphasis was placed upon spelling and completing the reading of the Level III stories. This modification places an extreme limitation upon adequate evaluation of Level III.

It should be pointed out that the Jefferson City students expressed satisfaction in learning the transfer patterns, although the number of students (two) was small.

CHAPTER IV

DISCUSSION, CONCLUSIONS, AND SUMMARY

Introduction

The purposes of the Missouri Adult Vocational Literacy Materials Development Project were to prepare a program of materials for use in teaching basic and functionally illiterate adults to read, write, and spell. Therefore, the concerns of the review of the literature, the consultations with authorities, the interview research with teachers of adult literacy classes and with adult students in literacy education classes, and the nationwide survey of teachers and directors of adult basic education programs centered on the following needed information.

1. The nature of the population for whom the materials would be prepared, including literacy status, age, sex, race, and geographic location; vocational backgrounds, interests, and expectations; status and assessment of intelligence; and psychological, social, and physical characteristics of illiterate adults and the general characteristics and qualifications of teachers and programs in adult literacy education as they relate to the methodology and content of the materials to be developed.

2. The nature of currently available materials for teaching illiterate or functionally illiterate adults reading, writing, and spelling in-so-far as they would provide information useful in the development of the proposed new materials.

3. The nature of instructional methodology appropriate for instruction of illiterate adults which would provide basic or extended information which would enhance the materials and the instructional program to be developed.

The materials development phase of the project would be based, in large part, upon conclusions reached after studying the findings of the review of the literature, the research, the analysis of available materials for teaching illiterate adults, and the best possible information pertaining to the methodology for teaching adults.

The tryout of materials or, the evaluation phase, was planned to ascertain whether the materials developed, especially the first three levels--because of the use of the initial teaching alphabet in conjunction with traditional orthography, were effective when used in rather typical classes of illiterate and functionally illiterate adults by teachers with extensive, moderate, and no training in the teaching of reading, writing, and spelling.

Research Phase

Before suitable materials for teaching reading, writing and spelling to illiterate adults could be developed certain characteristics, traits, experiences, abilities and expectations of the prospective students and teachers who would use the materials had to be ascertained. The research phase included an extensive review of the available literature and a series of questionnaire surveys and interviews with teachers of adult literacy classes, directors of adult literacy programs and with the students themselves.

The findings relative to these factors indicate the following conclusions pertinent to the development of the materials.

Discussion and Conclusions

Definitions and Demographic Characteristics.- The literature is saturated with definitions for the terms "adult" and "illiterate." The psychologists and sociologists are somewhat in agreement in defining an "adult" as one who is fairly independent in operating as an individual. This is not the case with the term "illiterate." Literacy level measurement of adults has not been adequately developed. These definitions vary from "the ability to read and write," without stating which language is being used; "the ability to write a simple message," without discussing the level of "simplicity"; and "previous grade completed in school," which assumes that level of completion predicts level of achievement.

The project staff was presented two alternatives: either make an arbitrary decision and select one of the descriptions of "illiteracy," or do further research in order to obtain a more complete description of the type of individual who would be using the materials to be developed. The latter alternative was chosen in light of the inadequacy of the available definitions and descriptions. The research initiated by the project staff revealed the following conclusions concerning the illiterate adult, the prospective consumer of the program of materials to be developed.

1. Age--The older student, it was concluded, must be considered when the materials were developed. Of a population who had attended schools less than five years, 75 per cent were 45 years of age or older. Although 25 per cent of those who had attended school less than five years were between the ages of fourteen and 44, the bulk of the population was older and the materials should direct themselves to this student.

2. Sex--Of this same population, 55 per cent were male. In the development of the materials phase the staff was to keep this figure in mind; however, the higher percentage of males was not great enough to discount the female members of the population. Since they accounted for almost half (45%) of this population, their interests certainly were to be considered in the materials.

3. Race--Seventy-five per cent of this population was caucasian. Although the rate of illiteracy among negroes may be high, among the total population there is a higher proportion of white. Reports indicating that the typical illiterate is negro are erroneous. Since caucasians come from many cultural and

ethnic backgrounds, it was concluded that if the materials were to attempt to serve most of the illiterate population, they had to be non ethnic in approach. Characterizations in the illustrations were to be suggestive of people, only.

3. Geographic Distribution--Although 60 per cent of the illiterate population lives in an urban setting, a substantial number have rural backgrounds. This was concluded to be an important factor relating to the content of the materials. As is to be expected in light of the above percentage, those states which contribute the greatest number of illiterates are those which include industrialized, heavily populated areas. These facts lead to the conclusion that the materials should be urban-oriented, but not neglectful of rural backgrounds.

Another finding dealt with the percentage of inmates in prisons who were illiterate. Since the research indicated that as much as one-third of this population may be illiterate, it was concluded that this group should be considered by the materials development staff.

4. Summary--In demographic terms, the development staff concluded, generally, that the typical student who would be using the materials would be 45 years of age, perhaps male, and live in an industrial, urban environment, possibly with a rural background.

Measurement of Adult Intelligence

Sources providing information concerning the intellectual level of the prospective users of the materials were many, and included reports from the Army Special Training Centers during World War II, data from adult reading programs sponsored by various agencies and from prisons.

Most adult reading programs make few decisions about grouping or admittance on the basis of measured intelligence. However, since the data received from the above sources indicated that the measured intelligence of illiterate adults, it was concluded that the adult student who would be using the materials would be on the lower end of the continuum, having a lower measured intelligence than the general population. The mean I.Q.'s gathered from these sources were generally in the 50-70 range.

Psychological, Sociological, and Physical Characteristics of Illiterate Adults.- Precise information on scholastic potential of illiterate adults to be found in the literature is very limited, probably because of the lack of adequate instruments to measure it. However, in order to prepare materials suitable for the population to be served by the materials to be developed, adult students in basic literacy programs were tested and information was collected from prisons and other sources to provide an estimate of the intelligence of this group. The findings of these studies revealed that illiterates and functional illiterates were substantially below the general population on tested intelligence, with I.Q.'s ranging from 50 to 100 and averages found between 70 and 80. The implications for materials development were that in concept development more explanation and practice would be required and the content should be of a familiar and practical nature to the adult student.

Learning ability of adult illiterates, when learning is defined as power rather than speed, tends to peak between the ages of 20 and 25 and then decline slowly until in the sixties, as is true for the general adult population. This decline is so slight and gradual that the adult can learn throughout life if other conditions are relatively normal. Adults are able to learn reading, spelling, vocabulary, and other forms of verbal skills more rapidly than children but appear to experience some difficulty in learning spatial and quantitative material. Therefore, the materials to be developed, since they pertained to verbal skills, could be somewhat more brief than with children's materials with less repetition in vocabulary development, spelling, and writing skills, and thereby require shorter time to complete the reading development program.

Although the adult will bring substantial experience, objectivity, stability, and power of concentration to the learning situation, there is evidence that his critical thinking ability may be clouded by the tendency to avoid logical analysis and to become less objective as age increases. It is suggested by this information that materials and methods should provide for critical explanation and discussion of content.

Since memorization or rote learning does not persist strongly is resisted by adults, the content developed should have relevance to the adults' goals or experiences and the period of exposure to such content should be lengthened appropriately.

Attitudes, interests, and motivations of illiterate and functionally illiterate adults, on the basis of the general and specific literature and research carried on by this project, are characterized by the following.

1. Mental set or disposition and proneness to employ what is known rather than seek new solutions which may create emotional blocks to learning.

2. Lack of confidence in ability to learn, sensitivity to failure, self depreciation, anxiety, and often impaired self and social concept.

3. Interest in the adult does not decline appreciably between the ages of 20 and 60 and adult interest can be modified within the limits of ability, energy, personality, and shifts in vocational and cultural expectations. Resistance to acquisition of interests which interfere with established customs or habits may require planned interest stimulation. Research carried on by this project indicated a high level of interest on the part of adults in vocational, family, self-improvement, citizenship, and recreational subject matter in the learning situation.

4. Motivation of adult illiterates is an area of study which needs much more research. However, it can be implied from the literature and the research of this project that the most dependable motivations are those which pertain to the basic biological drives and self-preservation and protective behavior. Social and cultural motivations have great significance for adults. Motives change as a result of the growth and expansion and the anxieties and threats characteristic of life of the adult. Disadvantaged or undereducated adults are most likely motivated by basic needs of the survival type.

In the development of materials, therefore, substantial efforts were made to incorporate content, vocabulary, and format having high interest to the illiterate and semi-literate adult in the areas of vocations, family life and problems, citizenship and government, recreation, and general topics of high interest level for general self-improvement. Further considerations and efforts were given to attitude development, self-concept development, confidence development, and reinforcement to the learning process in the materials. The materials would contain content which pertained to realistic and relatively basic needs of the adult and would encourage further learning.

Sociological findings from the literature were somewhat fragmentary. The illiterate adult was characterized as a "struggler" and "scrambler" who is usually overly pragmatic and stunted in long range planning and self-evaluation, prone to over-projection of his difficulties and limited in his views of prospects for improvement. On one hand he has a low need for achievement and autonomy and on the other he has high social and religious value orientations and a high need for nurturance and affiliation. Although illiterate persons may be found in all segments of the population, not just from minority groups, minority groups often exhibit lowered self-esteem, suppressed aggressive urges, in-group aggression, displaced aggression, lack of mainstream values and participation, and excessive use of defense mechanisms. Illiterates found in urban areas are likely to have had a rural background and rearing in the case of all racial and ethnic groups. Illiterate and functionally illiterate adults because of low educational attainment can be expected to perform in a menial occupation at low wages and have a high rate of unemployment and possess insufficient literacy skills for vocational training and retraining. He will also be expected to exhibit a poverty of interest, experience, and ingrained resistance to education, however, he is likely to attach a higher value to educational experiences related to vocational aspirations. Further research on basic sociological characteristics was carried out and will be discussed in a later section of this chapter.

Conclusions pertaining to the development of the materials for instruction in reading, writing and spelling were that there would be need to have realistic and practical content with a lower socio-economic outlook and a rural or common flavor. They should further provide an up-lift to the assumed, depressed and defensive person and in direct and positive ways provide realistic vocational possibilities, orientations, and goals and the educational means to their achievement. The teachers manuals for the materials should appraise the teacher of the social and psychological attributes of the illiterate and semi-literate student.

Physical characteristics of the adult illiterate are almost neglected in the literature. It is known, however, that uncorrected hearing, sight, and speech problems exist to a greater degree among this group than in the general population. There is evidence of mental and physical health problems, disease and health decline factors. To achieve maximum learning on the part of the adult student, of course, all of these conditions of health should be diagnosed and corrected in-so-far as possible. The size of print in the materials would be influenced by the incidence of sight problems encountered and directions and advice to teachers of adult basic education classes in the teacher's manuals relative to physical problems would be appropriate.

Vocational Backgrounds, Interests and Expectations.- Because the crux of the materials to be developed was to have a vocational theme, this information and its implications were considered vital in the preparation of appropriate and meaningful content. The vocational experiences, interests and expectations of the illiterate adult and the possible occupational trends which affect him had to be considered in preparing the instructional program if it were to pr vide an effective medium for both growth in and through reading.

Since the methods of objectively measuring illiterate adults' job interests are inadequate, it was concluded that in preparing the vocationally-oriented materials the occupational backgrounds of the student, his manifest interests (those demonstrated by participation) and possible occupational trends which may affect him should be the bases for planning the materials.

Most of the illiterate adult population has a history of agricultural, manual and unskilled vocations. Some of them have risen to the semi-skilled level. Occupational trends reveal, and seem to be substantiated by the demographic data reported elsewhere in this report, that the number of agricultural occupations will continue to decline, thus moving farm laborers to urban areas. There is a projected increase in the service areas (cooks, waitresses, service station attendants, hospital workers), the sales industries and the manufacturing industries.

These findings, as they related to the development of the materials in particular, were significant. If the illiterate adult is to keep up with occupational trends and locate and/or maintain his position in the job-market, all signs point toward upward vocational mobility. Trends in selected occupations appropriate to the student education, retraining, their interrelatedness, and their vocational importance to the illiterate adult were concluded to be essential to the development of the instructional program and were to be reflected in the content of the materials.

Review of Available Adult Reading Instructional Materials.- Before the staff was to undertake the development of a set of instructional materials for the illiterate adult, another first step was to scrutinize the available materials, their format, content, instructional methodology and skills presented.

Nine adult literacy series were reviewed. The results were most diverse. Among the various series there was little agreement as to methodology and content, few provided more than very brief suggestions to the teacher and the readability levels ranged from 2.4 to 7.3. The skills which were emphasized ranged from learning atomistic rules for "correct" English usage to building basic sight vocabularies.

The results of the review of available adult materials and of the research phase discussed in Chapter III of this report were combined and lead to the conclusions that a balanced program of reading skills (presented sequentially and developmentally) should be contained in the materials; the content, although primarily vocationally-oriented, should have variety; and it was also concluded that a complete teacher's manual should be provided if the adult students who were going to use the materials were to receive effective instruction.

Instructional Methodology for Adult Illiterates.- As important as reviewing available materials for the adult literacy student, the review of current instructional methodology being used was considered an important first step. Both general adult education and specific adult literacy education methodologies were examined. Several references offered platitudes for teaching the illiterate adult; some gave lists of specific "do's" and "don't's."

While some methodological spokesmen indicated that a purely phonetic approach would offer the quickest results with the adult students, others proposed a "global," sentence-phrase approach in teaching reading. Other suggestions for instructional methodology for adult illiterates included the use of a variety of approaches, emphasizing the value of eclecticism; the use of an instructional language the adult student can understand and the use of many audio-visual aids.

Although there was much disparity in the methodologies reviewed, the references presented recurring themes which lead to several conclusions important to the development of the materials. Because of the repeated suggestions concerning content, it was concluded that the materials should be related to the learner's life in the community. This reinforced the staff's thinking that the content should deal with adults in adult-situations, and that the situations should be somewhat common to the type of student to be served by the materials. A story describing a vacation at a New England resort would not be as meaningful as one describing a vacation at home which included bowling, fishing, etc.

Spelling instruction is most practical when the words are used in the adult's conversation and in the materials themselves. In addition to accepting this suggestion, the staff further concluded that the words selected for spelling instruction should be those with exact or nearly-exact configurations in both i.t.a. and t.o.

An important philosophical note was repeated in the majority of the references and was concluded as being important to the development of the materials. Not only are there important reading skills and attitudes to be taught the student, but there are values to be gained by the student through reading. Therefore, a major conclusion was that the materials should have content about adults. Subsequent studies conducted by the project staff of adult interests revealed that their concerns were with jobs, inter-personal relations at home and at work, child care, auto purchasing, insurance, social security, etc. The development of themes such as these into reading content would provide an effective medium through which the adult would learn to read, write and spell; and, it would provide useful and significant information, thus providing for both growth in the skills of reading and personal growth through the act of reading.

Consultations with Authorities, Experts, Teachers and Students.- Before the actual writing of the materials could begin, a certain amount of orientation to the problem had to be accomplished. It was necessary to obtain an overall view of the problem of adult illiteracy, the characteristics of the illiterate adults for whom the materials were to be developed, some basic information concerning the experiences, training and suggestions of typical teachers who would be utilizing the materials and the features of adult literacy education classes which would implement the materials to be developed. Complete results of the consultations, interviews and questions which were conducted are reported in Chapter III of this report. In light of these results, following conclusions pertinent to the development of the materials appeared to be justified.

1. The illiterate adult generally has difficulty dealing with abstractions, exhibits inadequate or lazy speech patterns, is found predominately on the lower socio-economic levels, usually possesses below average intelligence, often has a rural background even though he may be living in an urban center. Because of these general conclusions, the staff further concluded that the materials to be developed should reflect the interests indicated by typical illiterates, provide content which is not too abstract or advanced but within the reach of the illiterate adult, include stories with rural as well as urban settings and provide adequate auditory and visual instruction in an attempt to compensate for the typical illiterate adult's speech patterns.

2. The typical teacher of adult basic literacy classes is usually one trained to teach in an elementary school, although many of the teachers have had no training whatsoever; although the teacher does not need to come from the same socio-economic level as his student, an attitude of acceptance is important; teachers of adult literacy classes vary in age and teaching experience; and,

teachers of adult literacy classes often have no formal training to teach adults how to read. Because of these characteristics it was concluded that the materials should be accompanied by teacher's manuals for each instructional booklet, discounting the nine supplementary vocational booklets. If the manuals were explicit in giving directions and suggestions, experienced teachers would have no difficulty supplementing the lessons and the inexperienced teachers would be receiving as much assistance as could be given.

3. The types of adult literacy classes being conducted in the United States today are as numerous and varied as community needs, sponsoring agencies and local resources dictate. Specific conclusions based upon correspondence with and visitations to literacy classes already in progress are inexorably included in those sections of this report which deal with the illiterate adult student, the teacher of the illiterate adult student, instructional methodology for illiterate adults and available adult reading instructional materials since the interaction of these factors produces the adult literacy class. Detailed descriptions of the various classes contacted by the project staff prior to the development of the materials can be found in the "Research Phase" section, Chapter III, of this report. It may be sufficient for the immediate section of this report to say that the staff concluded that the materials to be developed had to possess variety in content, sound instructional method and ease of implementation before the series could be adaptable to most situations.

However, the proposed teacher-training phase of this project, which intended to prepare teachers to utilize the materials developed, was eventually deleted from the plan because of governmental policy reasons. The evidence from using the materials with illiterate and semi-literate adults indicated that not only should teachers using these materials have a modicum of training in the use of the initial teaching alphabet and in the teaching of reading, but that they also should have training specifically preparing them as teachers of illiterate adult students.

Until such time as a sufficient number of teachers can be prepared in the teaching of adults, in the use of the materials developed in the project and the materials have been thoroughly tested in practice, the entire six levels cannot be adequately evaluated. Therefore, it is recommended that the series, Language for a Future, be considered in the category of "experimental materials." They cannot be recommended as proven instructional materials.

Materials Development Phase

Discussion and Conclusions

In a materials development project the materials which have been produced are, in essence, facts and conclusions themselves. The nineteen-book instructional series stands as the result of the research completed by the project staff.

As a result of the preliminary research, the staff concluded that several features should be incorporated into the materials:

1. Adequate provision for introducing, maintaining and transferring the initial teaching alphabet to traditional orthography.

2. Providing a facing page to facilitate transfer.

3. A well-developed teacher's manual for all instructional levels.

4. Spelling and writing instruction based upon words of high ability and similar i.t.a. and t.o. configuration.

5. Content based upon expressed adult interests, attitudes and motivations, and up-to-data occupational information.

A thorough explication of the conclusions of the materials development phase would include an examination and study of the materials developed by the staff.

Evaluation Phase

Discussion and Conclusions

To test the effectiveness of the materials field trials were conducted in three experimental classes over a four-month period. The results of these trials are reported in Chapter III of this report. There is always inherent danger in drawing conclusions from a small sample. In this instance there is an added difficulty because the students were at different levels of instruction at the time of the post-testing. Realizing these dangers, the results of the pre- and post-testing have been interpreted most cautiously. The resuls have been interpreted separately for each class and no effort has been made to combine the results, although to do so would provide a more favorable result. The following conclusions are offered with a few qualifications and explanations:

Pre- and Post-Tests

1. Moberly--On the basis of the significant increases shown between pre- and post-testing in t.o., it appears reasonable to conclude that the materials were effective in improving the students' performance in Word Meaning, Paragraph Meaning, Spelling, and Word Study Skills after approximately 75 hours instruction. From this increased performance it may be concluded that the materials were effective in teaching these students to read and spell.

2. Columbia--When arriving at conclusions concerning this class it should be kept in mind that the post-testing was done after the completion of approximately 25 hours of instruction in i.t.a. Even in this amount of time there was a significant increase in performance on the Paragraph Meaning and Word Study Skills sub-test. Also, there was an increase in Word Meaning performance which approached significance. As might be expected, i.t.a. apparently had a confusing effect upon spelling at this point. While there were some increases in spelling performance, there were

also decreases. The data tend to give support to the effectiveness of the materials in teaching the students to read. It would only be conjecture to try to project the progress of this class at a comparable 75 hours of instruction, but if the present trend continued the results would probably be positive.

3. Jefferson City--On the basis of the data reported for the testing it would be most reasonable to conclude that the materials were not effective in teaching the students how to read and spell, although there was a significant increase in spelling at the .05 level on the second post-testing. However, this conclusion needs to be tempered by the following considerations:

a. The three groups did not differ in intelligence and reading ability at the beginning of the experiment.

b. The materials used were the same for all three groups.

c. The Jefferson City class was the only class taught by a teacher with no training or experience in the teaching of reading.

Allowing for these three considerations it appears appropriate to reconsider the conclusion regarding the class in Jefferson City. The one major variable which was not controlled was the teacher. It is conceivable that the lack of progress shown on the tested results is due to the teacher variable. This implication is emphasized by the progress made by the other two classes involved in the experiment.

Anecdotal Records

The summary of the teachers' anecdotal records is a subjective measure of the effectiveness of the materials as they were used in the three experimental classes. In the light of the three teachers' comments, the following conclusions about the materials appear to be in order:

Level I

1. The number of words taught per lesson is within the student's grasp.

2. The length and content of the stories are suitable for initial reading instruction with adults.

3. The method used to introduce the 44 i.t.a. symbols appears to be sound, although additional development of sound-symbol relationships should be stressed.

4. Additional auditory discrimination exercises might be helpful due to the well-established speech patterns of adult students.

5. Consonant addition and/or substitution exercises appear to be of value in class, but seemingly there is little transfer to personal reading.

6. Special emphasis should be made in the teacher's manual concerning the difficulty adult students have in following directions, especially in the earlier sessions.

7. The handwriting models are adequate but should be integrated into other activities, possibly spelling.

8. Spelling could possibly be introduced earlier and integrated with handwriting exercises and i.t.a. character introduction.

9. The facing page technique promotes transfer from i.t.a. to t.o.

Level II

1. The content of the Level II stories is enjoyable for the adult student.

2. Teaching more advanced structural skills in Level II does not create special difficulties.

3. Some worksheets in Level II would be helpful for instructional purposes.

4. The students could master more spelling words.

5. Interpretation and discussion are promoted because of the more interesting content.

6. The facing page technique does not impede i.t.a. fluency and further developes transfer to t.o.

Level III

1. No conclusions are warranted.

Summary Conclusions

Based upon the objective data of the test results and the subjective data contained in the anecdotal records the conclusions may be summarized as follows:

1. The materials developed are basically sound although a few revisions appear to be in order.

2. The materials are more effective in teaching adults to read when utilized by a teacher who has had some training in the teaching of reading.

3. The teacher's manual is adequate as a basic instructional tool, but needs some revision.

4. One hundred hours of instruction are not sufficient to adequately cover the materials in Levels I, II, and III.

Recommendations for Revisions of Material

1. Several worksheets need to be revised in order to eliminate patterns of answers (e.g. first word or last word being used too frequently as correct response.)

2. The inclusion of additional review stories would be helpful in Levels I and II.

3. Some words used in worksheets and other skill exercises should be revised so as to be within adult meaning limits (e.g. "cello", "stateroom").

4. Additional worksheets could be constructed to be used with consonant addition and/or substitution exercises. This work is done by the teacher on the blackboard as it is presently written.

5. Integrade handwriting (i.t.a.) exercises with spelling exercises, thus promoting individual sentence construction. Also, possibly introduce spelling at an earlier stage.

Recommendations for Revisions of Teacher's Manual

1. Additional auditory discrimination exercises in which the student is involved with a worksheet.

2. Give a special note to the teacher concerning the necessity of giving complete and clear directions to the students before they begin a worksheet.

3. A more sharply defined format showing the phases of each lesson would eliminate some confusion, especially in the earlier lessons.

Recommendations for Further Research

1. The total program, all six instructional levels and the vocational booklets, should be evaluated in a field trial situation.

2. Experimental and control groups should be used in further field trial evaluative situations.

3. A larger sample should be included in further experimental classes.

4. A larger sample should include as many non-readers as possible, those with a very minimal knowledge of t.o., so that the value of i.t.a. as an instructional aid can be better tested.

5. Further research is needed which investigated the phenomenon of transfer from i.t.a. to t.o., and the effect of prior knowledge of t.o. upon this transfer.

Recommendations for Teacher Training

1. All teachers participating in the research phase (outlined above) should receive adequate training in the teaching of reading, regardless of the group (experimental-control) the teacher will instruct.

2. Teachers using the literacy materials developed, regardless of whether in a research phase or regular adult class, should have training in the teaching of reading in general, and the teaching of i.t.a. in particular.

SUMMARY

The Missouri Adult Vocational Literacy Materials Development Project was undertaken to develop a program of appropriate materials for teaching illiterate and functionally illiterate adults to read, write and spell at the functional or sixth grade level in the shortest possible time. Available basic and intermediate instructional materials were inadequate in a number of ways: lack of vocabulary and content appropriate for adult instruction, lack of modern content, failure to incorporate recent knowledge, concepts, and methods of instruction, neglect of the vocational and daily life interests and motivations of adults, or were not well suited to use in group teaching situations. Furthermore, evidence of inadequate methodology appropriate to teaching the undereducated adult suggested the need for teacher training and guides or manuals for teachers along with materials which would enhance the teaching of the adult student.

The purposes of the project were to carry on essential research to enable the development of basic and intermediate reading, writing and spelling materials based on vocational and daily life subject matter for the instruction of adults who are at illiterate and functionally illiterate levels, using the initial teaching alphabet (i.t.a.) jointly with traditional orthography (t.o.). The standard English alphabet would be used for the same content printed in i.t.a and the story or article so written would appear on the page facing the story or article written in i.t.a. The subject content of the stories and articles used for instruction and supplementary purposes would be appropriate to adult interests and motivations. The methodology of teaching incorporated in the materials would be scientifically developed from the findings of adult educational literature and research pertaining to illiterate adults and their learning problems and processes.

The project was carried out in three phases: a research phase, a materials development phase, and a field try-out or evaluation phase. First, the research phase included a critical review of the existing research and literature pertaining to basic needs, social needs, personal and social characteristics, levels of functional literacy and potential of adults needing literacy education, and vocational backgrounds, and interests of adults; review and analysis of available adult teaching materials; and critical review of teaching methodology appropriate for adult instruction in literacy education classes. Secondly, because of the need for further information relative to students, teachers and teaching methods, and programs of basic and functiona literacy education; interviews were conducted with teachers and students in adult literacy education programs and classes, and a nationwide questionnaire survey of the opinions of teachers and directors of of literacy education programs was carried out. Consultations with authorities and experts in adult basic education, materials development, use of the initial teaching alphabet, and characteristics of basic and functionally illiterate adults were also included as a part of the research phase of the project.

The materials development phase of the project was planned to include the development of three levels of basic instructional materials with teachers' guides, three levels of intermediate instructional materials with teachers' guides, and several booklets on vocations or occupations for use as supplemental materials in the program. The basic levels of the materials were planned to incorporate instructional materials in reading, writing and spelling, beginning with lessons designed for the non-reader and proceding through three levels or grades of instructional material. After a few pages of introductory material designed to familiarize the student with the initial teaching alphabet, the content would be arranged so that the facing pages would contain material in i.t.a. and the same material in t.o. By so doing, the student would be enabled to make a gradual and continuous transfer and transition from i.t.a. to content written in the regular English alphabet. Parallel instruction would be provided in word recognition, comprehension, writing, and spelling. The content of the basic materials would be graded in difficulty to enable the student upon completion to be reading at approximately the third grade level. The reading, writing and spelling instructional program was planned to be extended to the sixth grade level by means of a set of intermediate materials which would employ the traditional alphabet (t.o.) with vocabulary assistance in i.t.a. for those students who had completed the first three levels using i.t.a. The intermediate materials were planned to develop facility in reading and to provide an entry type functional competence in various vocations and daily life pursuits. The vocational and daily life theme would characterize the entire series of lessons. Teachers' guides were planned to accompany each level of the instructional materials. Upon completion of instruction, using the six levels of the materials, it was anticipated that the illiterate adult student would be able to read common adult literature such as newspapers, magazines, and instructional materials related to his vocation. During the development of the materials continuous try-outs of the lessons were carried on with the assistance of illiterate and functionally illiterate adults who volunteered to work with the project staff.

The evaluation phase of the project was planned to try-out the materials with sample classes of illiterate and functionally illiterate adult students who would be representative of such American adults in 100 hour instructional programs. This phase was designed to identify strengths and weaknesses in the materials and methodology of teaching and to assess the general effectiveness of the first three levels of the materials.

The major results of the project are within the materials produced and the assessment of their effectiveness. The results of the research phase of the project provided the basic information about the adult persons for whom the materials were developed, teaching methodology, and technical aspects of the process of developing materials. The important findings and conclusions of the research phase were:

1. Seventy-five per cent of adults who have completed five years of schooling or less were 45 years of age or older, 55 per cent are male, 75 per cent are caucasian, of mixed ethnic backgrounds. Twenty-five per cent of those adults who had completed five years of schooling or less are of the negro race. Theretore, the literacy education materials to be developed should be non-ethnic in orientation and approach and oriented to the middle age and older adult.

2. The illiterate and functionally illiterate adult population predominantly has a rural background but lives in an urban environment; the greater numbers live in the most populous, heavily industrialized states; and approximately one-third of the prison populations are illiterate. Materials developed should be urban oriented but should have a rural flavor.

3. Adults are able to learn basic verbal skills more rapidly than children and can learn them about equally well at all ages, but many experience difficulty in learning quantitative skills. The illiterate adult population, however, is characterized by a substantially lower level of learning aptitude than the general population, unskilled in occupation, and possesses many and varied psychological, sociological and physical characteristics which tend to serve as blocks to motivation to learn and to the learning process. On the other hand, the adult illiterate has many tangible, utilitarian, practical interests and motivations which can and should serve as central foci of teaching materials and teaching methodologies.

4. Interests and motivations of illiterate adults are heavily affected by and strongly related to vocations; occupations; income producing activities; family, community, civic, self-improvement, and socio-cultural concerns. Teaching materials and methods should be developed around these interests and teaching should reflect knowledge of them.

5. Mental set, lack of confidence, sensitivity to failure, low self-concept and related conditions of the adult illiterate dictate that materials and methodology of teaching contain content and teaching-learning organization which will change the conditions in the direction of promoting learning.

With respect to the findings and conclusions pertaining to available adult basic instructional materials review indicated considerable variety in methodology and content. The materials contained limited or brief aids to the teacher. The methodology was in some cases basic and sound while in a number of cases tended toward traditional methodology and content quite inappropriate for adults. An instructional methodology specifically designed for teaching illiterate adults appears not to have been developed. Considerable disagreement is evident with respect to which teaching methodology is most effective in teaching basic skills to illiterate adult students. However, agreement was found that the teacher should be armed with knowledge and skill in several known methods in order that they be prepared to adapt the most effective method to the individual student.

Teachers of literacy education classes are predominantly elementary school teachers who have had limited or no training in the teaching of adults and especially illiterate adults. Many teachers of basic adult education had completed no teacher training and a number had completed few or no courses in the teaching of reading. When one ponders the consequences of the teaching-learning situations where an untrained person attempts to teach reading, writing, and spelling to an illiterate adult student, it can only be concluded that teachers should be educated in the methodology of teaching and specifically in teaching adults the skill of reading. Materials for teaching should contain content and methodological organization appropriate for the teacher and student and a wealth of aids and suggestions to the teacher in the use of the materials.

The materials developed--_The Language for a Future_ Series and the supplementary vocational booklets--reflect the major findings and conclusions of the research and related activities carried on by the project. They are highly recommended for review by persons who would develop comparable materials for use in basic and intermediate adult education in reading for basic vocational orientation purposes. They should also be valuable as a basis for extending a reading program for adults both horizontally and vertically. The materials hold promise for the researcher who wishes to study the phenomenon of learning through the use of the augmented roman alphabet--initial teaching alphabet with varieties of students such as those with mental handicaps, reading deficiencies, and other unusual problems.

The results of the field-trials lead to the conclusion that the materials are effective in teaching adults word meaning, paragraph meaning, spelling and word-study skills. The combination of i.t.a., t.o. the facing page and the adult-oriented material is effective and readily accepted by the adult learner. Several revisions of the worksheets and the teacher's manuals have been recommended which should increase the effectiveness of the materials as instructional tools. To accomplish the most effective use of these literacy materials, teachers using the series should have adequate training in the use of i.t.a., the teaching of reading and in adult education.

It is recommended, in view of the limited evaluation of the materials which has been conducted so far, that the materials be considered experimental in character and that further try-out and evaluations be made utilizing the materials in classes taught by teachers of all levels of preparation. It is hypothesized that the materials will be most effective when used by trained teachers who are prepared in the use of the initial teaching alphabet and in the teaching of reading.

APPENDIX A

Review of Available Adult Reading Instructional Materials

APPENDIX A

How to Read Better, Books 1 and 2. Revised Edition
Harley A. Smith and Ida Lee King Wilbert.
Austin, Texas: The Steck Company. 1964.

General Comments

This two-book series is designed for use with adults reading at the intermediate level (Grades 4-6). Although some writing exercises are introduced, the emphasis in these workbooks is on reading development and in particular comprehension skills and vocabulary development. The two books are closely correlated and should be considered as a combined package.

Comments Relating to Content of Stories

The story content is varied throughout the two workbooks but a number of selections appear perhaps a bit sophisticated and perhaps inappropriate for illiterate adults. Fables and legends are sprinkled throughout the selections as well as poetry. Other material is of the personality-building type. Throughout both workbooks, there appear many proverbs and maxims at the bottom of pages. No comments are made about these.

The following list contains brief annotations of the selections in both texts:
Book I:

1. Conversation between a man and his son. They have a bad faucet and the father and the boy can't turn off the water. The father uses this situation as an example to tell his son that young people have a lot to do and to find out. There are both little and big jobs for the younger generation to undertake.

2. Story of Johnny Appleseed with the theme that he did a simple but important thing.

3. Story of Luther Burbank and his task of getting 20,000 prune trees ready in ten months and how he used grafting techniques. Point is made that success is a matter of deciding what one wants most of all.

4. Stars and how they twinkle and why they appear brighter on cold nights. Big Dipper and North Star mentioned.

5. Early attempts at underwater diving. Boy and father are talking about this and father reads a selection from a book.

6. Discovery of Pacific Ocean by Magellan and facts about the Pacific being the largest, deepest and widest body of water on the earth.

7. Story of the huge telescope in California called the Largest Mirror in the World.

8. Moon as a satellite and a discussion of various man-made satellites.

9. What a television studio looks like and how the TV picture gets to the set at home.

10. Being alert and aware of what one experiences. Following this is an exercise where the students check their knowledge about hollidays, public officials in their area and certain personal items. The information or answers about the hollidays is placed in the back of the book.

11. Brief selection on idea of whether we know much about the animals we see every day. Then there is a series of quizzes on interesting characteristics of common animals. Answers to these are given in the back of the workbook.

12. Fable of the elephant and monkey arguing about their talents with the wise owl resolving this by having them work together to get some fruit in a high tree across a river. Point is that each thing in its own place is best.

13. The famous poem about the six blind men and their conceptions of the elephant by what they touched. The idea is not to form opinions before all the facts are in.

14. Man has a secret box and everytime he gets mad at someone, he writes down what made him angry and puts it in the book. A week later he looks at what was written and finds that it really wasn't important anyway.

15. Selection about inventions and what can be learned from accounts of how things were invented.

16. Adaptation from "A Dissertation On Roast Pit" by Charles Lamb.

17. How certain states got their names. Also the derivation of the words "quisling" and "smog".

18. Story of Chopin seeing a dog trying to catch his tail and this inspired the "Minute Waltz" or "Little Dog Waltz".

19. Folk tale of how Irish stone stew got its name.

20. Scandanavian folk tale of why there is salt in the sea.

Book II:

1. Happiness is what everyone wants more than anything else but it does not mean the same to all men.

2. Stuart Chase's idea to make everything an adventure no matter how simple.

3. Jacob Twersky-the blind wrestler who found happiness by making use of what he had - namely developing his other senses.

4. Boy who is to order a rifle. An experienced hunter-friend advises him to get a single - shot rather than an automatic. That way, one's shots will count and mean more.

5. Longfellow's poem "The Arrow and the Song".

6. Ella Higginson's poem "Four-Leaf Clover."

7. Story of pioneer family involved in a prairie grass fire and cowboys who come to help by using the "backfiring" technique.

8. Dr. James Naismith's inventory of basketball and the skills involved in playing it today.

9. "Casey at the Bat" by Ernest L. Thayer.

10. Legend of Atalanta, who was the King's daughter. She ran a race with each suitor and when he lost, he lost his head. Melenion comes along, gets some advice from Venus about using three golden apples as a diversion and so he wins the race and Atalanta.

11. How to catch big fish, what equipment is needed, necessary knowledge of the habits of the fish you're trying to catch and what actual skills are needed.

12. Putting your best foot forward. Education, knowing others, knowing yourself will help give you a best foot to put forward.

13. How to get along with others and be a friendly person. Must first be friendly with yourself. Accept people as they are. Friendship grows with relaxation. One can't buy friendship.

14. Four science experiments. Trying to pick up something if shoulders and heels are against the wall, putting an egg in a milk bottle without breaking the egg, getting the egg back out without breaking it, ink standing up in water. Students are to follow the directions. Rationale behind what happens is put in the back of the book.

15. Story of a family who have to leave a picnic site because they do six wrong things. Students are asked to read to find these and the six are listed in the back of the book.

16. Importance of Good Grooming and how this can be accomplished. There is an 8 point chart for a week there to be used by the student as a checkup.

17. Science - type article about the chlorophyll making plants green in the sun-light and how fish use fins to keep their balance and guide themselves.

18. Man reads article about Beelie's invention of the bathysphere.

19. Communism vs. Americanism and how at first Americans were indifferent to this threat.

Illustrations

There are very few illustrations in the two workbooks. At this level, the need for many illustrations is not great. What few there are have shades of black and gray.

Presentation of Lessons and Material

The typical pattern of the books is to have a reading selection for the students and then a series of questions relating to the story. Following this there is usually some type of vocabulary building lesson. With many lessons, there are suggestions for writing assignments in connection with what has been read. One outstanding feature is that there is an introduction before each selection in which a definite purpose is given to the student. Purposes such as "read for the main idea" or "read as fast as you can" are common ones.

Teacher's Manual

There is no separate manual. There are one-page introductions for the teacher in the front of each workbook. Both pages contain about the same information. It is stated that mechanics of reading and enjoyment in reading are the two basic problems of any reader. The teacher is also encouraged to ask more "what do you think about it?" than the "what do you know about it?" type.

In each workbook there is also a one page introduction for the student. In these introductions are discussed what are the purposes of the books and a list of the reading skills covered in the books are given.

Work Perception Skills

The emphasis in these workbooks is on vocabulary-meaning development rather than phonics. Each lesson has some vocabulary exercise and these are of varying types. A list of topics and exercises included in the two workbooks follows:

1. Making lists of words from story that are difficult for student.

2. Dividing compound words between parts or syllables.

3. Classifying words and finding which in a list does not belong.
4. Matching exercise with similes.

    bold as a lion
    wise as an owl
    busy as a bat
    blind as a feather

5. Antonyms and synonyms. A number of exercises with this type.
6. Divide between double consonants in most words.
7. Learning "group" words such as carry, hard, school, cluster, nide, etc.
8. Homonyms or word twins.
9. Discussion of what question words such as "who, what, when, where," call for.
10. Rhyming words
11. Alphabetical order
12. Making compound words
13. Suffixes such as s, -y, - ed, - er, - es, - en, - al, - ly, - ty, ful, - ing, - tion and dropping or doubling letters before adding certain suffixes.
14. Prefixes es-, dis-, re-, mis-, ex-, un-, en-, de-, ed-, in-, tele- .
15. Discussions straight forward of words and their definitions.
16. Words having one letter missing and students are to fill in missing letter.
17. A bit of work dealing with roots and their meanings.

Comprehension Skills

The heaviest emphasis in the workbooks is on the development of comprehension skills. The full range of literal and implied skills are dealt with. For the most part, the skills are involved by giving the students practice in answering questions about a selection that call for the application of these skills. With some of the skills, there are some suggestions and discussions for the students to read in addition to applying them.

The comprehension and interpretation skills covered in the two workbooks are as follows:

1. Identifying the main idea of a selection. Students are told that (1) title, (2) opening sentence or paragraph, (3) closing sentence or paragraph and (4) words and phrases throughout a selection are the four types of clues to main idea is given and the reasons for it being correct as given.
2. Reading for specific details.
3. Reading poetry and reacting to its meaning.
4. Evaluating the actions or motives of story characters with questions such as "Would you like him?" or "What do you think of what he did"?
5. Reading for speed.
6. Interpreting phrases from a story. For example: "straightened his shoulders."
7. Reacting to a story and explaining why reader did or did not like it.
8. Cause - effect situations and ideas in stories.
9. Taking tests - different types of tests and throughout the workbook the students have experience in answering various kinds of test items.
10. Arranging events in sequence.
11. Generalizing from the story. In some cases, the point is directly expressed while in others it is not.
12. Fact vs. Opinion or Fancy. Distinguishing these in stories.
13. Making inferences about characters.
14. Sensory imagery. Exercises about what sounds various animals make. Also exercises in distinguishing and describing such things as:
    a. Odors of frying bacon and fresh paint
    b. tastes of chocolate cake and apples
    c. feels of silk and woolen material
15. Implied meanings
16. Reacting to opinions that have been expressed in a selection.
17. Recognizing author's purposes. Way he developed and organized his presentation.

18. Mental Imagery - reading to form mental pictures.

19. Comparing and contrasting poems or ideas.

20. Reaching and following directions as in science experiments.

Spelling

There are no direct, separate exercises in spelling but considerable writing is done and thus practice in spelling. There is at least one exercise dealing with missing letters in words that would be related.

Handwriting

On the first page of Book 1, there is a review (it is assumed) of lower and upper case cursive letters, punctuation marks and numbers 1 - 10. A number of exercises involve the writing of paragraphs or stories following up a selection that has been read. In Book 2, there is also on the first work page a review of lower and upper case letters.

Provisions for Testing and Evaluation

The emphasis is on self-review and checking throughout both workbooks. There are various review pages and in the first of Book 2, there are a number of review paper covering topics from Book 1. One unique feature is the various self-check pages where the student does the work, checks it, and then rates his progress or writes down how he thinks he could do better. On another page, he lists what he thinks has helped him most in the unit, what skills he feels he can use well and what skills he needs help on.

There is a final test in both books. The first test in Book 1 emphasize vocabulary while in Book 2, the student reads and then writes or chooses answers over three different selections. No criteria are given to the teacher or suggestions for what to do if a student indicates weaknesses on the tests or review pages.

Vocabulary

There is no master list of vocabulary provided for either book. No count was made of matters of vocabulary load and control as a good deal of that loses meaning at this level.

Readability

The Dale-Chall Readability Formula was applied to five samples drawn from different portions of each workbook. The results of the ten samples and the average grade placement for each book are as follows:

	Sample number	Approximate Corrected Grade Level
Book 1.	1	5.4
	2	7.0
	3	5.2
	4	4.8
	5	4.6

Average Grade Placement = 5.4

Book II.	Sample number	Approximate Corrected Grade Level
	1	4.5
	2	4.4
	3	4.5
	4	7.0
	5	8.2

Average Grade Placement = 5.7

The Adult Reader, M. S. Robertson, Austin, Texas:
The Steck Company, 1964.

General Comments

This book is in workbook form. The general approach to reading is a sight-word approach. Although it is not clearly stated as such, it would appear that the teacher goes over the new words for each story with the students, presenting these as sight words. Phonics and structural analysis skills are not dealt with on the exercise pages. The author states on page 2 that this book "was prepared for use in teaching adult beginners to read."

Comments Relating to Content of Stories

There are two families that seem to appear as central characters throughout the stories. There is Joe Smith, his wife Mary and his wife Mary and his son Joe , Junior. There are the neighbors Henry Brown, his wife Elizabeth, his son Henry, Jr., and daughter Elizabeth. The first person "I" is used in a number of stories but it is clear that this refers to Joe Smith.

The content is centered around home and family living and includes:

a. Description of the two families
b. Going to adult school
c. Wife as a homemaker
d. Eating meals, particularly balanced ones
e. Taking rides on Sunday.
f. Going to church
g. Driving
    1. road signs
    2. railroad crossings
    3. driving in the city
h. Use of a pick-up truck to haul things
i. Mowing the yard and trimming shrubbery
j. Buying groceries and clothes
k. Changing tires, washing and taking care of a car
l. Using a small trailer to haul things
m. Depositing money and having checking account in a bank.
n. Raising chickens with a brooder
o. Raising a vegetable garden
p. Visiting the capitol city and the capitol building
q. Shopping at a department store
r. Working in a carpenter's workshop
s. Repairing fences and windows, painting the house, etc.

Through the use of illustrations which have for example,Negroes pictured, there is some attempt at appealing to multi-ethnic groups. This is quite scanty and superficial it would seem.

There is no dialogue between story characters anywhere in the book.

Stories especially apt and different from other books include changing a tire and husband working around the house repairing things. In such content as this, there has been no fear in introducing what might be called "technical" words. There is no real plot development but rather descriptions of family and home activities.

Illustrations

The illustrations are black and white and seem true to life. There are some stories in the middle of the book for which there are no illustrations. Normally, however, there is an illustration for each story.

Presentation of Content Material

No directions are given to the teachers as to directions for presenting the content such as discussion of the pictures. Each "story" is one page in length. Since the new words are shown on each page, it is assumed that the teacher presents these prior to the students reading the story. There are no suggestions either for follow-up discussions of content.

Teacher's Manual

There is no separate manual. There is only a one-page introduction at the beginning of the book. The suggestion is made that the teachers can group their students by their rate of progress throughout the book. Some advice is also given for using the check test exercises.

Word Perception

There is no attempt to teach principles in the areas of phonics or structural analysis or dictionary work. The only type of exercise related to this area is where sentences have a missing word to be filled in.

Comprehension Skills

There are no lessons or exercises dealing with the development of comprehension skills. In addition, there are no suggestions given to the teacher as to possible questions to ask to call for comprehension of the material read.

Spelling

What is done in terms of spelling is connected with the handwriting practice work. Words and sentences are copied throughout the book and in the introduction, the author stresses that this great amount of practice will develop spelling ability.

Handwriting

Handwriting work is introduced and carried on from the very beginning of the week. The work is all cursive and there is no manuscript work. After each page of the content, there is a practice page with space for writing. The first practice work involves copying the lower and upper case cursive letters. The third practice page involves the writing of the student's name and on the fourth practice page space is for writing the wife's name. The rest of the pages involve practice at copying words or sentences. In the Introduction to the book, the author suggests that the students work on separate paper and then use the workbook page.

Type of Workbook Practice Exercises

The only workbook practice exercises (besides the writing practice) consist of many instances presented with a blank for a missing word. The sentences in the exercises at the beginning of the book are copies of sentences that have appeared in previously read content while in the latter parts of the book, the sentences are not exact copies but consist of words previously read. Thus, the later sentence exercises take on the aspects of context skill development.

Provisions for Testing and Evaluation

1. There are periodic review lessons after every four or five stories. These review lessons consist of new stories, usually two pages in length, which use words previously introduced.

2. Following each review lesson there is a Check Test which consists of 15 to 25 sentences that have appeared in the preceding review lesson. Criteria are given at the bottom of page for use by the teacher. In the introduction to the book the teacher is told that if the student has a low score to keep him working until he does it perfectly.

3. On the next to the last page of the book, there is a general writing review where the student is to write his own name, the names of his family members and he is to copy a sentence.

4. On the last page, there is a general reading review of 24 sentences with blanks for words.

Vocabulary

1. There is a master list of words at the end of the book. The new words on a given page are presented in a Word Study section on each page. Some inaccuracies include omitting words on the master list and omitting words in the Word Study section that were new words on a page.

2. A ten per cent sample of the master list of vocabulary was drawn and the regular reading material, not including review lessons, was studied to determine patterns of vocabulary repetition. It was

found that 39% of the words studied are repeated at least a total of five times in bunched and spaced repeats. It was found that 48% of the words have repeated only two times in bunched and spaced repeats. Forty-two per cent of the words had at least one spaced repeat.

3. The average length of "stories" is 98 words and there is an average of 11 new words introduced in each "story". The average was also found to be one new word per nine (8.98) running words.

Readability

Six samples from various parts of the book were drawn and the Spache Readability Formula applied. The results were as follows, with the first sample being from the first part of the book, the second sample from the second sixth of the book, etc:

Sample	Grade Level
1	1.7
2	2.2
3	2.3
4	2.6
5	2.4
6	3.0

Average Grade Level = 2.4

Learning and Writing English. M. S. Robertson.
Revised Edition. Austin, Texas:
Steck-Vaughan Company. 1964.

General Comments:

This is not a book designed to teach reading but it is, rather , a Language Arts workbook. This book would be used as an adjunct to a reading text such as The Adult Reader by the same author and publisher. In the one page introduction at the first of the workbook, it states that "the workbook in a general way, includes subject matter usually taught in the third and fourth grades of the public schools." It goes on: "Necessarily, there is a general review of the material that is taught in the first and second grades of school." Also, there is an occasional use of material that is found in a higher grade.

Teacher's Manual

There is no separate teacher's manual and the only directions to the teacher are in a one-page introduction in the front of the workbook. It is stressed that this workbook was designed with the idea of its being a self-help book which the student could use with a minimum of help from a teacher.

Two cautions are given to the teacher. One is that much attention should be given to correct spelling and in no case should a student be permitted to use incorrect spelling. Also, it is stressed that close attention must be given in class to "correct" oral usage and that errors should not, even as illustrations, be placed before a student.

Penmanship Skills and General Writing Organization Skills

In all of the exercises, there are opportunities for writing various sentences in connection with learning rules of usage, punctuation or capitalization. There are certain exercises directly concerned with penmanship practice and organization of writing. A list of the topics covered in the order in which they are covered in the workbook are as follows:

1. Writing capital and small cursive letters
2. Writing numbers 1 - 10
3. Writing of Friendly Letters with lessons on:
    a. heading
    b. greeting
    c. body
    d. complimentary close
    e. signature
4. Addressing an envelope
5. Writing a business letter with emphasis on the inside address
6. Paragraph writing with one topic per paragraph and indention discussed
7. Writing of simple outline, 1- 2- 3- 4- etc.

Punctuation Skills

A list of the topics covered in the order in which they appear in the workbook are as follows:

1. Punctuation of greeting and complimentary close in letters.
2. End punctuation for the various kinds of sentences
3. Use of marks in direct quotes

Capitalization Skills

The following topics are covered in the workbook in this order:

1. Sentence begins with a capital letter
2. Names of person
3. Cities and States
4. Names and abbreviations of Months
5. Names and abbreviations of Days of Week.
6. Parts of letters that are capitalized
7. Words that name the Diety
8. Names of countries
9. Titles and abbreviations like Doctor, Mister, Reverend

Usage Skills

The following topics are covered in the workbook:

1. has and have
2. can and may
3. come and came
4. no and know
5. them and those
6. went and gone
7. hear and here
8. to, two and too
9. is and are
10. was and were
11. by and buy
12. I and me
13. eat, ate, eaten
14. give, gave, given
15. throw, threw, thrown
16. drink, drank, drunk
17. see, saw, seen
18. do, did, done
19. am, be, been
20. shall and will
21. they,their, there
22. Idea of one negative per thought

23. got, arrived, received
24. Avoiding "John, he is going" construction
25. good and well
26. among and between
27. mad and angry
28. learn and teach
29. this, that, these, those

Other English Skills

These topics in addition to the above are covered in the workbook:

1. Definitions of telling and asking sentences
2. Discussion and definitions of directing sentences and sentences expressing fear or excitement
3. Jingle about number of days in each month
4. Forms and definitions of declarative, interrogative, imperative and exclamatory sentences
5. Discussion and identification of complete subject and complete predicates in sentences
6. Contractions
7. Regular and irregular plural forms of nouns
8. Singular and plural possessive forms
9. Joint or separate possession of connected nouns
   Ex: Our children are on the girls and boys playground.
10. Use of dictionary
    a. alphabetical order
    b. syllables
    c. spelling
    d. pronunciation
    e. meaning and definition

Spelling

Although there are no special provisions for the teaching of spelling, there is a great deal of writing in the exercises relating to the application of usage rules, etc. It is emphasized in the Introduction that "much attention should be given to correct spelling" and "in no case should a student be permitted to use incorrect spelling".

Presentation of Lessons and Practice Exercises

A typical pattern of a lesson involving usage, capitalization or punctuation involves first a brief discussion of the problem and then two or three sentences that illustrates the correct usage. The students are to study these examplary sentences. In the Introduction, the author makes the point that students should not have errors placed before them, even as illustrations. After studying the sentences, there is a discussion of why words were used or punctuation used in such a manner and then the actual rules to cover the principle are listed in heavy black type. Then finally there will be some other sentences presented where the students are to either tell why a particular word was used or rather to actually use the word and then write an explanation of why. In other words, the attempt is made to get the students to apply the rules.

Throughout the book, there are practice writing page where students are to write various kinds of material and thus can review English principles and then periodically there are labeled "Review Lessons" to help reinforce rules. There is a glossary of the 111 rules presented placed in the back of the workbook. The rules are presented in the order in which they were covered in the workbook and with each rule is included the page number where it was first discussed. This can then become a reference for the student.

Provisions for Testing and Evaluation

Various unit-type tests are included throughout the workbook which tests the understanding of the material in that unit. There is a Final Review and Test which samples from all the material in the workbook. For all these tests, at the bottom of each page, criteria as to the number right need to achieve ratings of Satisfactory, Good, Excellent, Perfect are given to the teacher.

System for Success - Books 1 and 2. R. Lee Henney.
Chicago: Follett Publishing Company, 1964.

General Comments

This two-book series is designed to teach the fundamental skills of reading, writing, spelling, English and arithmetic to adult illiterates. The materials were first developed and field-tested in the Indiana state prisons. Some research work has been reported and more is going on to test the effectiveness of the materials. The approach in reading makes use of phonics and in particular the "word-families" idea. At the upper level, the emphasis is placed on comprehension. Book 1 supposedly covers 0 - 5 or 6th grade level and Book 2 continues the reading development through the 8th grade level.

Comments Relating to Content of Stories

In the early pages of Book 1, the only content are meaningless phrases or sentences designed to give the students practice at applying the word-families learned. Examples of these are: (1) "Sam may pass a hat." (2) "Nan had a sock." After these initial sentences and phrases, stories appear in each page but the early ones are disjointed at times, probably due to the fact that the emphasis is on practice at words containing the phonics families up to that point.

A brief synopsis of the stories in Book 1 follows:

1. A boy and girl go to an outdoor park dance.
2. A car runs out of gas and one man goes to get some fuel while the other man stays with the car.
3. Men begin to play ball but rain postpones last half of the game.
4. A boy has a large hog that wins at the local and then at the state fair.
5. A description of sheep in a field and bees in a tree.
6. Laws and the reasons for having them.
7. A man raking the yard, sweeping out the car and mowing the lawn.
8. A boy hits a gate and dents a car. He plans to tap the dent out and tell his father the truth.
9. A boy is daydreaming about a car race after reading an ad for a "neat" car sale. This race is on a beach and he wins it.
10. A boy is dreaming about playing in a baseball game and he gets the crucial hit to win the game.

11. A man is writing to his wife about what he has been doing and decides he'll write often as mail helps the day seem brighter. The man may be in prison but it doesn't say.

12. A man has been in a fight and is trying to get home. He sees someone he thinks is man he fought, then realizes that it is not the man after all.

13. A man buys five bags of rice at bargain prices but his car hits a rock and the rice spills all over the car. His wife is mad since he didn't get what was on the list so she hits him in the eye with her fist.

14. A boy is writing home to his father saying that his job in the steel plant is a good one and that he has met a fellow who spent a year in France.

15. A man has a big date but it snows so hard that they can't go anywhere.

16. A fellow has a car that won't start since it is out of gas. He goes to get some.

17. A man drives to a school late at night and shakes the door until it falls in. He sees a wood stove, a cookbook and a sport coat which is on a hook. He hears a loud boom and gets away in a hurry.

18. A man goes to bed to get a good rest since he is starting a new job the next day. A cat gets in the room and into a coat. He doesn't know what it is at first and gets scared at the movement.

19. A man works on boats at the docks. His father calls and says he should come home because mom has a bad cold. The son jumps in his old car and goes home only to find out it is all a joke, which he doesn't appreciate.

20. Big Bill has an old farm that he dearly loves even though it is dry and old. He is old and shaky. A man hopes God will give Big Bill a fine new farm when he goes to heaven.

21. Shooting rats at the town dump and five rules given for handling guns.

22. Tom has an old car that finally gives out so Tom takes the heap to the dump. With tears in his eyes, he puts a red rose on the hood and leaves.

23. A soldier is waiting for a train at Christmas time in New York. MP's arrest him but he finally points out another man who looks like him. He stops the other man from using an automatic and MP's let him go.

24. A man who has had a lot of experiences and his ten children decides to go to school. He had only finished the 3rd grade in school. He wants to be a doctor; people think he is a fool but he is going to keep plugging.

25. A little fellow gets a chance to play 2nd base in a big game. His fielding and base running win the game.

26. A two part story of four pages about a man who goes to a How to Find a Job Class; he discusses what is said in class.

The content of Book 2 consists of brief three or four paragraph stories with the emphasis on the development of comprehension skills. A variety of content is included and brief summaries of the stories are as follows:

1. Good health and the importance of the mother having a proper balanced diet for children.

2. Brief account of Lewis and Clark Expedition.

3. Comparison of rural and city life with idea that most people now live in the city.

4. How the South recovered after the Civil War with the help of the cotton and timber industries.

5. Brief biographical account of George Washington Carver.

6. Space age and the new developments in it.

7. Account of Babe Ruth's life.

8. Role of machinery in modern farming.

9. Description of New England, in particular the fishermen.

10. U.S. Navy - its function and place in the Service.

11. America the Beautiful - idea of great diversity of beauty in this country.

12. Accidents and importance of safety around home and outdoors.

13. Story of Ben Franklin who as a boy was "taken" by a friend in buying a whistle for a very high price.

14. Description of the different scenery one sees on train ride from Chicago to New York.

15. U. S. Army - its functions and place in the Service.

16. Description of Leadville, Colorado as a symbol of the Old West.

17. Role of newspapers in our country and the importance of advertising.

18. Brief account of Thomas Edison's life.

19. History of U. S. Postal System.

20. Account of the writing and planning of U. S. Constitution.

21. Account of development of and description of the Bill of Rights.

22. Importance of the Bill of Rights.

23. Importance of Budgeting and briefly how to do it.

24. History of kite flying and stressing how much fun it is.

25. Account of references to Salt in the Bible and its uses now. Salt has symbol of goodness and purity.

26. History of the automobile and its importance now.

27. Williamsburg, Virginia as symbol of Colonial times.

28. Brief account of Ben Franklin's life.

29. Statue of Liberty - including poem inscription and what it stands for.

As can be seen from the above sketches, the content in Book 2 is predominantly biography and what might be included under the rubric of Social Studies.

Illustrations

There are no illustrations or pictures with any of the content material in either Book 1 or 2.

Presentation of Content Material

The emphasis in Book 1 is on the phonic word families. The stories are found at the bottom of each chart and the words in the stories are so chosen as to give application practice with these phonic families. The stories are to be read but not discussed in any great detail.

In Book 2, the stories do become the focal point. For each lesson, there is a list of words to know which is read to the students. They pronounce them, define them, spell them and use them in a sentence. Then the story is to be read aloud by one student while the others follow along. There is a comprehension exercise and exercises dealing with the use of the new words in sentences and a spelling lesson. This pattern of presentation is maintained throughout Book 2.

Teacher's Manual

Separate teacher's manuals are provided for each of the two books. Book 1 teacher's manual has a lengthy introduction in which such topics as the following are discussed: general information and comments about illiteracy; rationale of family phonics approach; qualities of a good teacher such as patience, familiarity with material, giving liberal amounts of praise; concept of a learning team with adult learners helping each other; where to hold classes; detailed directions on what to do first night; sample case histories of adult illiterates.

In addition, there are detailed directions for teaching the lessons. A pattern is maintained throughout since directions do not have to be given for each lesson. Since there are reading, English, spelling and arithmetic lessons, a program outline is provided. The emphasis is on reading and writing first. After twenty lessons, the arithmetic begins and toward the end of the book, the English lessons are integrated. There are 76 lessons in all.

In the back of the teacher's manual there is a bibliography provided both for the teachers and students.

Book 2 does not have as complete an introduction but does have detailed directions for the teaching of the lessons. Answers to the exercises are also provided in the teacher's edition. Also included is the suggested sequence of lessons. Reading alone for a while and then Arithmetic is alternated with English included towards the end.

Word Perception Skills

The great emphasis in Book 1 deals with phonics charts. On the first chart are the various letter sounds discussed which are grouped by their regularity. On the second chart, the various consonant blends and diagraphs are presented and discussed. One problem that occurs is with the vowels. On the first chart, only the long and short sounds of "a", for example, are presented and yet the later charts with "a" families have included other sounds of "a". This is not pointed out.

Beginning with Chart 3, various phonic families are presented. The sounds of these are gone over, then there are lists of words made by adding consonants or consonant blends in front of the families. The meanings of the individual words are to be discussed. The emphasis is on drill and practice over again at reading the families and the words. As time progresses, there are a few sight words presented at the bottom of some charts. There are words that follow no family pattern but are needed to tell stories. After the drill work, then phrases, sentences or stories presented.

The last few charts in Book 1 deal with multi-syllabic words. Words are presented in lists with syllabication division given in parentheses. If student can not read the words, then he is to read the syllables and blend them together. No principles of phonics or structural analysis are developed at all.

A list of the "families" dealt with is as follows:

Chart 3. ab, ad, ack, ag, am, an, ap, as, ass, at, ax, ay

4. e, en, et, ess, eck, ed, es, eg

6. it, if, ill, in, is, im, ip, iss, id, ix, ick, ig

8. or, on, op, ot, ob, ock, od, om, ox, oss, og, o

10. uck, um, un, ug, ub, us, up, ut, ud, uss, ull

12. ar, ark, art, ank, ant, aw, and, ass, ast, ard, arge, ance, ange, aste, ay.

14. ave, ake, are, ame, ace, air, ain, ail, all, alk, alt, ade, ate, ale.

16. ee, eed, eek, eel, em, en, eem, een, eep, eet.

18. eld, elt, ew, ep, end, ent, est, ess.

20. eat, ear, each, ead, eal, east, eak, eam, ean, ea.

22. ind, ish, ick, ight, ife, ile, ise, ite, ing, ie, ith.

24. in, ice, ip, ive, ist, ike, y, ide, ield.

26. or, ow, own, ound, our, out, ock, ong, ou, ould.

28. oom, oon, ood, ook, oor, ool, oot, oat, orie.

30. oke, old, ome, one, ope, ore, ose, ote.

32. ump, ur, urse, ure, ule, ust, unt, ue, rut, qui

Comprehension Skills

No particular attention is given to the development of comprehension skills in Book 1. However, in Book 2, considerable attention is given to its development. After each reading selection, four comprehension questions of the multiple-choice type were asked. Three of the questions called for details while the other is usually the "why-how" inference type of question. In addition to these four, a question concerning the main idea of a selection is given. Students are not to look back for answers unless absolutely necessary. No lessons are particularly taught regarding comprehension but the questions asked give practice.

Spelling

After each review page of phonic families in Book 1, there is a spelling exercise. The lessons include a part where phonic families given with illustrative words and these are to be spelled, then a dictation of words from the teacher and thirdly a dictation exercise involving phrases and sentences. With the multi-syllabic words, words and sentences are dictated and the teacher is warned to expect difficulty here.

In Book 2, along with each reading lesson, there is a spelling list. The words in the spelling list are not necessarily used in the reading selection. The students are to be given the words and given time to study them.

Handwriting

Of the first nine lessons in Book 1, five are devoted to penmanship. The lessons include the following:

1. Capital Manuscript charts
2. Lower case manuscript
3. Lower case cursive
4. Linking letters in cursive
5. Linking all letters

It is noted that no practice is given for upper case cursive letters. Also the formation of letters is all contained in these five early lessons. It is suggested in Book 1 and particularly in Book 2, that writing assignments be given regularly using the stories as a stimulus.

English Skills

There are six lessons in Book 1 that involve the development of English usage skills. For each lesson, explanations are given in the lesson and rules are stated but not emphasized as rules. Examples are used and gone over and after each lesson, there is a test of what has been learned. The lessons cover the following topics:

1. What a sentence is and the capitalization and punctuation of sentence.
2. Capitalization of names, titles, days of week, holidays. Abbreviations of States, days, months and punctuation of abbreviations and in writing of money.
3. Commas used in series and after introducing group of words.
4. Writing of complete sentences with idea of complete subjects and predicates.

5. Writing of friendly and business letters and addressing of envelopes.

6. Filling out of application forms.

In Book 2, these same matters are discussed in greater depth and in addition topics such as quotation marks, apostrophes, nouns, pronouns and their plurals.

The lessons in both Books on filling out application forms are particularly good.

Arithmetic

Arithmetic lessons are included in both Books both of computation and problems. A particularly good lesson in Book 2 is on the reading of various kinds of graphs. The arithmetic includes the fundamental processes, fractions, decimals, percentages and units of measure.

Provisions for Testing and Evaluation

In Book 1, there is constant reviewing of phonic families. Once the student is involved in these families, a new chart is introduced. The next lesson is a review of all families up to that point. The review usually is involved with reading lists of words and a story. The directions to the teacher stress that if problems are seen with the review pages, then the appropriate lessons should be gone over again.

No final tests for evaluation are included. The English section, as mentioned earlier, has check-tests after each lesson.

Vocabulary and Readability

With Book 1, a basic word list was the starting point. This list was divided into one-syllable words. The one-syllable words were then grouped into phonics families to be put in the charts.

The Book 2 vocabulary was drawn from Thorndike's list of 30,000 words.

The Spache and Dale-Chall Formulas were used to determine the readability level of the two books. Five samples were randomly drawn from each book. The results were as follows:

Book 1		Grade Level
Sample 1		2.4
2		3.6
3		3.2
4		4.5
5		5.2
	Average	3.8

Book 2		Grade Level
Sample 1		7.0
2		4.8
3		7.2
4		9.8
5		7.8
	Average	7.3

Reading for a Purpose. Dr. J.B. Adair & Dr. R.L. Curry.
Chicago, Illinois: Educational Opportunities Project
Division of Follett Publishing Co. 1965

General Comments

The publishers present this combination workbook-text as an adult basal reading program which incorporates reading, writing, and English usage. They state that it was designed to raise undereducated adults, of all ages, to a level of functional literacy in a minimal amount of time without slighting or omitting the fundamental basic skills.

Because this is an adult program and it was assumed that the spoken language and experiential background of adults would probably permit more rapid progress in learning to read than is usually possible with children, there seems to be an effort to provide for the sequential development of some skills. Throughout all the lessons, a sight approach to the introduction of the vocabulary is pre-eminent.

Comments Relating to Content of Stories

The content of Reading for a Purpose has an urban setting and is initially concerned with family-living and the problems today's families face. Representative topics are the family, school, the job, the family car, a family trip, public parks and natural resources, safety, weather, the seasons of the year, holidays, units of time, banking, budgeting, and installment buying, provision of basic needs, problems of car buying, household repairs, health, news media, community activities, all levels of government, social security, citizenship, and job hunting.

Language skills such as alphabetizing, grammar, punctuation, capitalization, paragraphing use of the dictionary, use of complete sentences and letter writing are all incorporated in the text. However, the extent to which they are developed will depend upon the teacher and her approach.

The content, while not "preachy" and directive, seems to suggest caution. It generally provides worthwhile information.

Illustrations

After the first lesson there is one major black and white illustration per lesson. The people all tend toward their late 30's, except for the children. There seems to have been no attempt to adopt a multi-ethnic approach.

Presentation of Content Material

The procedures to be used in presenting each subject or story are spelled out ratherly clearly. The new vocabulary for each lesson precedes the story but is on the same page. However, suggestions for presenting the vocabulary are not consistent and the introduction of new words could easily degenerate into a meaningless isolated list of words on the chalkboard. The teacher who is oriented and dedicated to meaningful reading will undoubtedly see that the vocabulary is introduced in meaningful context.

Some lessons suggest questions for discussion which will extend the students' knowledge and understandings as well as those which are based upon information in the story.

Many lessons provide a brief supplementary story which while utilizing some new vocabulary may not use it all. The reason for this ommission is not clear.

In addition there are suggestions for supplementary assignments and related activities which would be meaningful to the students. Some of these are letter writing (business and friendly), and addressing envelopes, alphabetizing, map reading, following directions, completing an application for employment, etc.

Teacher's Manual

The "Instructor's Book" or teacher's manual for this program assumes the teacher will have a working knowledge of the skills to be presented in each lesson.

For each lesson, there is a reproduction of the pages in the student's book and teaching suggestions under the following headings:

Purposes: a statement of concepts and skills to be developed in this particular lesson
Procedures: provides for review of preceding lesson, suggestions relative to the introduction of new vocabulary and presentation of the story. Included also are the instructions for use of practice exercises and the worksheets.
Suggested Assignments and Activities: suggestions regarding supplemental activities and assignments as well as a supplemental story

Word Perception Skills

1. Initial consonants
2. Consonant diagraphs in initial position (th, wh, ch, sh)
3. Consonant blends in initial position (br, cr, dr, fr, gr, pr, tr, bl, cl, fl, gl, pl, sm, sn, sc, sl, sp, st, sk, sw, tw, scr, spr, str, spl, thr,) Some texts do not treat all of these as blends.
4. Final sounds: ch, sh, th, sp, st, s sound of z, ed, nk, ng, ck, x, z, b, d, f, g, l, m, n, p, r, t.
5. Vowels
    - Short sounds
    - Long sounds at end of syllables
    - Vowel diagraphs ai, ay, ee, ea, oa, au, aw, eu, ew
    - Effect of final e

Word Perception Skills cont.

Diphthongs oi, oy, ow, ou
"a" followed by "l"
Vowels followed by "r"

6. Silent Consonants: h after g (gh), kn and wr
7. Compounds
8. Contractions
9. Endings: s, es, d, ed, ing, y, ly, er, est, 's, ful, less, or
10. Prefixes: un, ex, bi, in, re, fore, for
11. Syllabication

Dicationary skills include alphabetizing, index and guide words, and meanings.

Auditory discrimination of initial sounds is followed by visual discrimination exercises. For example: the students are asked to indicate whether words pronounced in pairs are the same. This is followed by exercises in telling whether all the elements in a group of letters or words are the same. This begins with groups of two and expands to groups of four until the students are asked to identify or match word pairs, select the word that is different in a group, or the word which is the same as a given key word.

However, very little is done with auditory discrimination beyond the first lesson.

The inclusion of exercises dealing with long and short vowels,diphthongs and digraphs as well as the effect of a vowel followed by "l" or "r" is significant eventhough it is not dealt with as thoroughly as some might wish.

The value of dictionary skills in an adult education program has not been determined. Dictionary skills are essential if one is to go much beyond the sixth grade so that even minimal knowledge of how to use a dictionary is worthwhile.

Comprehension Skills

The development of comprehension skills begins in this program as soon as the sight vocabulary is large enough to permit even the most elementary content. Students are asked to identify the main idea by suggesting possible titles for the stories and to pick out details in answering specific questions about the selections. Discussions of a preceding story or of the one in the current lesson can extend understanding and interpretation of printed material.

The use of context clues in the identification of unknown words is reinforced by exercises such as selection of the correct word with which to complete a sentence.

The ability to draw conclusions from stated facts or circumstances is an important skill. Some of the questions about some stories and/or selections require one to draw conclusions on the basis of the available data. For example, "Why is it hotter in summer than winter?" The next step of course is in predicting. For example: "Is there danger in installment buying? If so, what is it?"

The sequence or order of events and following directions are closely allied. In the case of the former - there is an exercise in which students are asked to number sentences 1, 2, or 3 according to the order in which the events occured.

Spelling

This program does not include any specific spelling work. Some spelling practice is gained in the exercises which initially, involve copying sentences, the completion of sentences, writing answers to questions, and writing a short story.

Handwriting

Cursive handwriting is used throughout the entire program, starting in lesson 13 after the student has learned some sight words and has been introduced to some reading skills. The approach is described as "functional" as no isolated letters are taught. The student always writes a word, words, or sentences, etc.

In lesson 7, both the upper and lower case letters of the alphabet are taught in sequential order. Emphasis is on learning the names of the letters not in memorizing the order in which they appear.

It is interesting to note that while cursive writing is to be used exclusively by the students, in teaching the sounds of the letters of the alphabet, all the instructions say "print the letter______," etc.

The program does not provide for any basic instruction in the formation of the individual letters. To begin with, it is a matter of copying what appears on the worksheets, what is written on the board, or what the teacher may write out for the students to copy. Later, the students write words in alphabetical sequence, write answers to questions, complete sentences, fill out an application blank, and write both business and friendly letters, addressing envelopes for each.

Not until lesson 26 is student expected to read cursive writing. In 27 they are expected to "translate" the printed story by copying it in cursive writing.

In lesson 44, as the students complete an application blank; the upper and lower case manuscript alphabet is introduced.

Types of Workbook Practice Exercises

Initially the workbook exercises deal with the visual discrimination of words, selecting one word in a group that is different from the others, matching words that are alike, and selecting the word in a group that is like a key word. This work is followed by exercises in selecting the word or words which correctly complete sentences.

As the alphabet is introduced and the sound-symbol relationship is emphasized, the students listen and look at words starting with the consonants or digraphs being taught. This same procedure is used in teaching prefixes and endings.

Exercises which teach the sequence of the days of the week, the names of the month and the seasons are also provided. Exercises involving copying sentences written in cursive style seem to have little meaning since the context cannot be meaningful for everyone.

There are also exercises in consonant substitution which provide practice in word building as does the work on compounds.

Comprehension is checked by answering questions and selecting words which correctly complete sentences. In some cases this requires recognition that some words have more than one meaning. Similar exercises are used to emphasize the different sounds of some consonants, the long and short vowel sounds, the addition of endings, silent letters, etc. There are also exercises in recognizing words of more than one syllable.

Provisions for Testing and Evaluation

Most lessons provide for some review of the preceding lesson. It may be only rereading the selection or the supplementary story which utilizes some of the new vocabulary. There are no specific tests or exercises for evaluating how well the students are doing until lesson 37. Here there are five pages of exercises similar to those they have had before where they are asked to identify the printed form of words which are pronounced, identify the meaning of given words by selecting that which means the same or nearly the same or the opposite.

No standards of performance have been suggested. The guide merely suggests that the results be used to determine what skills or words might need reteaching.

Vocabulary

No rationale is given for the vocabulary used in this program. The new words for each lesson are listed on the page with the story and there is no master list. It would appear that the vocabulary is a direct result of the subject matter and content of the program. A total of 1138 new words are introduced in the fifty lessons. The number of new words per lesson ranges from 7 to 35 with an average of 23 new words per lesson. (No new words in lesson 50).

Although all of the stories were read, the number of repetitions or new vocabulary was not checked on each. However, for those that were, the number of repeats was inadequate. This is inevitable when one considers that the first story introduced 18 sight words plus seven picture words for a story of 36 running words. A little farther on in the text, we find 29 sight words and 104 running words, 24 sight words and 120 running words, 35 sight words and 205 running words.

Readability

The Spache Readability Formula was used to assess the readability level of this program. Six samples were taken at equal intervals and a readability level of 2.8 was found.

Sample	Grade Level
1	2.18
2	2.58
3	2.91
4	3.13
5	3.39
6	2.47

Ready for Reading (Early to Read i/t/a Program).
A.J. Mazurkiewicz and H.J. Tanyzer. New York:
i/t/a Publications, Inc., 1964

General Comments

This series of materials was published in 1963 and supplemented by a guide to spelling and writing in 1964. It is currently used by some laboratory schools and in several public school experimental programs.

i/t/a, in these materials and elsewhere,is based on a symbol-sound association. It is a code used to represent our speech. These sounds are not taught in isolation but in word context and until one is at the point of transition, giving letter names to the sounds is rejected.

This program emphasizes reading as a meaningful process as it strives to develop the understanding that written language is meant to represent speech. It was designed to take into consideration the ability, needs, and interests of the learner, the nature of the learning process, and the essential reading skills, abilities, attitudes and habits. Furthermore, one might assume that the authors believe the use of i/t/a eliminates many of the traditional objectives of a pre-reading readiness program and its accompanying activities. In addition, they imply that adoption of this program will assure success which --- "in early stages is more likely to increase confidence, add to the enjoyment of good literature and promote a positive attitude and permanent interest in reading."

Designed to start at the last half of kindergarten, the program would require approximately 15 months' time. They suggest, however, that delaying the initiation until the first grade might enable completion in a 12-month period. (The basis for this seems to be increased maturity and experience background of the children.) The authors further state -- "In general, transition from i/t/a to traditional orthography should normally be reached by late in the first grade, but may be deferred to the beginning of the second grade."

An outline of the materials with emphasis on subject matter and method, exclusive of story content follows. All of the symbol-sounds are introduced in the first six units. As many as three new symbol-sounds may be introduced in one day with fast learners covering them all in a three to four week period. It is recommended, however, that one move more slowly in order to insure better control in teaching. Although the authors imply that only one group is necessary, they do state there should be no more than two.

In introducing the symbol-sounds, vowel and consonant sounds are interspersed, the order of presentation based upon the sounds which occur most frequently in children's literature. However, there does not appear to be any planned vocabulary control or consistent pattern of word repetition. The authors state, "Excessive vocabulary control should be avoided."

In teaching the symbol-sounds, four steps are recommended. First, there must be auditory and visual perception of the sound and symbol which represents it. Second and third, auditory and visual association which must occur as the child learns to identify and write the symbol-sounds. Last, comes reinforcement and contextual application. (Practice and use.) With the exception of the children's names, which are taught as sight words and utilize traditional orthography, everything else is taught in i/t/a. "By the time of transfer to conventional alphabet, the child has developed clear concepts of the phonemes of the spoken language and has learned how to spell."

Books 1, 2, and 3 were designed primarily for teaching the forty-four symbol-sounds. On the basis of spot checks only, word repetition varies from 5-6 in the 1A book, 3-5 in 2, and 3-7 in book 3. Book 4 had much better content than the preceding ones, and a spot check here indicated repetitions ranging from 5-14 with no apparent system.

The lesson plans for the units in books 2 and 3 follow, in general, this plan:

1. Preparation
    a. establishing the objectives
    b. preparation of materials

2. Directed language - a readiness activity

3. Supplementary activities

Each lesson provides for a review of past learning, the building of words, recognition of sight words and a practice period when the children learn to write the symbols. There is a great deal of emphasis upon experience stories and creative writing from the point of interest as well as necessitating the use of symbol-sounds.

Books 4, 5, and 6 were designed to help children develop and consolidate the basic reading skills and habits necessary for achieving competence in reading and the authors indicate that marked individual differences will become evident. In these books, the child is expected to identify words independently in the context of the story. However, it is left up to the teacher to decide whether or not to introduce some of the more difficult words.

With the stated overall objective, "guided purposeful reading," the following factors fall into place:

1. Readiness for reading (concept development, developing a purpose for reading)

2. Developing thinking and vocabulary abilities (guided reading, story interpretation, and purposeful reading)

3. Developing and extending skills (workbook activities plus teacher-made devices)

4. Supplementing activities (provision for individual differences)

The program provides the teacher with a great deal of latitude in implementing the program. It is possible, therefore, to develop a group program with opportunity for directed and independent reading, create a very individualized one, or a combination of the two.

Unit 7

Book 4. Comprised of 14 lessons, 1 story per lesson plan in book 3. Has accompanying workbook.

Introduces compound words in lesson 1
Introduces contractions
Introduces structural analysis quite similar to that in t/o endings, concept of tense, possessives, singular and plural nouns and verbs

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Unit 8

Utilizes book 5. Comprised of 19 lessons. Workbook

Continues structural analysis of words (Encourages identification of words as parts of other words.)
Endings er, e
Presents the double consonant and generalization about short vowel sound before the last symbol it is doubled before adding ing
Suffix -ly (tells how)
Listening for "parts" of word (vowel sounds)
Attempts to get children to generalization about the number of vowel sounds and the number of symlables.

Unit 9

Book 6. No workbook. Continues the development and extension of structural skills already presented.

Begins gradual transition to t/o
Introduces capital letters in the following sequence:
SO C U W V P Z, I N, Y L, K H, R F, T D, B G, N E, and A M
These are illustrated and their use explained.
Real transition begins with lesson 8, and progresses through the program.

Unit 10

Book 7. 32 lessons. Workbook

Lessons 1 - 1 - completes the planned transition to t/o
Program becomes primarily one of spelling based on the explanation that the spelling pattern represents the sounds. They suggest that words which violate the pattern-sound which has been taught should be developed as sight words. (Then they suggest delaying this until after a story has been read.) Teach letter names and explain that they have more than one sound. Learn sequence of traditional alphabet after the introduction of q and x. Encourages practice in determining what symbol stands for the sound of _______? Recommend a great deal of supplementary reading. Reading t/o version of some read previously in i/t/a.

Communications I, II, and III. Dr. Josephine Bauer.
Chicago, Illinois: Educational Opportunities
Project - Division of Follett Publishing Co.
1966

General Comments

The introduction to this program states that is consists of a series of three workbook-type texts initially designed to help the disadvantaged adult to achieve the skills basic to communication: reading, writing, and spelling. The linguistic approach is used to introduce and develop these communication skills with a minimum of sight words.

The program starts with the teaching of the alphabet, is followed by the introduction of short, one-syllable words following common letter patterns used in speech. The number of sight words is negligible. In other words, it begins with the familiar and builds to introduce new and more complex reading skills.

Comments Relating to Content of Stories

Getting Started, the first book in the series has no stories. Its primary purpose is to teach the alphabet and the letter sounds in words with a minimum of sight words, and to have the students learn to write in both manuscript (block print) and cursive style the words they are learning. This includes numerals through five (5).

On The Way, the second text, does not present a story until Lesson 20. However a series of sentences using familiar words and a minimum of sight words (usually those demonstrating consonant or vowel patterns) are read. In some cases, new words are to be unlocked by the use of context clues. These provide for the use of only very elementary comprehension skills. The story topics cover dieting, an accident, pick-pockets, and reading advertisements and news accounts.

The last book in the series, Full Speed Ahead, has been written with the student in mind throughout. Comments and instructions are directed more to the students than in the other two preceding books. The author indicates that it is hoped that the students, instead of following along as the teacher reads the instructions, will read the directions themselves thereby being as independent as possible.

Although the stories are quite varied, the first ones are family centered. Others offer proverbs such as "Fine feathers do not make fine birds," while still others deal with home safety, different construction jobs, the work of gas station attendants, plus some adaptations of newspaper stories and a short book dealing with men in space, a pilot rescue, story of a thoughtful service man, and a biographical sketch of Mahalia Jackson.

Illustrations

The pictures or drawings seem to be adequate. However, not all stories or selections have illustrations. All drawings or pictures are in shades of black and white. Both the illustrations and the photographs answer the need for a multi-ethnic approach.

Presentation of Content Material

In Book I, words considered to be of high utility are introduced as sight words and as the students learn the sound patterns of the letters of the alphabet, pictures are provided as clues to new words. Knowledge of word patterns and consonant substitution exercises also helps increase the vocabulary.

In the second book, On the Way, word patterns initiated in book I are expanded with spelling patterns and context clues. Exceptions in spelling patterns and syllabication are presented along with increased emphasis upon comprehension. Some of the more difficult multi-syllabic new words appear on the same page as aids for the student.

Comprehension skills are a primary objective of Book III. The student is encouraged to read the directions for each lesson and work as independently as possible. There are exercises in preparing applications and questions of various kinds to be answered about the selections about different topics, as they read.

Although there is no separate teacher's manual for this program, the instructions for each lesson or item are quite explicit and, more often than not, the exact words are provided.

Teacher's Manual

The workbook texts of this series are the same for both the teacher and the students. A very brief prospectus (four pages in the first book, and a less than a page each for books two and three) is addressed to the teacher. However, from the very beginning the students are to be encouraged to try reading the directions, first following along with the teacher as soon as words are recognized, then independently as soon as they are able. Throughout the series, maximum emphasis on knowledge and recognition of the alphabet is stressed.

Word Perception Skills

1. Letter sounds
2. Blends, diphthongs, and digraphs
3. Word patterns (spelling)
4. Endings - s, an, ing, es, d, ed
5. Prefix un
6. Compounds

Word Perception Skills (cont.)

The alphabet is emphasized from the beginning. It serves as a basis for the sounds and spelling patterns which are taught along with word building exercises, etc.

1. Students copy and write words beginning with specific letters and sounds.
2. Consonant substitution exercises.
3. Like letters and words are matched.
4. Identification of letters representing sounds heard.
5. Selection of correct word to complete sentences.

Short vowels are taught first and a special game of Vowel-Lingo provides practice and reinforcement of these letters and their sounds (word building exercises in selecting vowels to be used in various word patterns).

Alphabetizing as a prelude to the use of the telephone directory and dictionaries is given as another reason for emphasizing the order and names of letters of the alphabet.

Comprehension Skills

Questions are provided for the student over the various selections. Words are given which the students must use in sentences. In some cases its meaning depends upon how it is used. Students are asked to select the correct word or words to complete sentences. Expression and its role in conveying meaning and selection of the word which makes a statement true are all presented as means of emphasizing and promoting meaning and understanding. Topics which can expand understandings by discussion are also suggested.

Spelling

Spelling is approached from the point of view of letter and word patterns. Practice is provided in word building exercises, answering questions, arranging words in alphabetical order, etc. Some words in the text are not spelled correctly, i.e. nickle for nickel.

Handwriting

Handwriting begins in the first lesson. The students learn to print capital letters and write both upper and lower case letters. Throughout the program, the student sees the alphabet not only in these ways but also the Roman style letters which appear in printed manuscripts.

Numerals through twenty are taught and the student learns to write them out as well.

They trace and copy letters and words. They learn to write their names and complete addresses, fill out an application form, write the days of the week, months of the year, and there are sentences as well as isolated words to copy.

Types of Workbook Practice Exercises

Most of the exercises require the use of one or more skills being taught. There are matching exercises, sentence completion exercises, multiple choice exercises in sentence completion, sentences to be written in answer to specific questions,word building exercises utilizing consonant framework, picture identification, writing words using specific letters, identification of opposites, exercises in arranging things alphabetically, questions and answers about selections read, practice in identifying accented syllables, etc.

Provision for Testing and Evaluation

Book I provides five review lessons plus 48 Vowel-Lingo games. The level of difficulty of the latter can be varied depending upon the instructions given.

Lesson 25 in Book II is a review of many things presented earlier, including things from Book I. It serves as a sort of test or check list.

Book III is meant to be self-explanatory so that the opportunities for independent work are increased. Although the answers to exercises are provided, the teacher is expected to check all books. Other means of evaluating are left to the teacher's discretion.

Vocabulary

There is no master vocabulary list given anywhere and nowhere is there any explanation of how the vocabulary for this program was selected --- other than that it attempts to start with the familiar and go to the unfamiliar.

Word repetition does not seem to follow any particular pattern and with a wide variety of content, vocabulary control becomes and is more difficult to maintain.

Vocabulary Control

Each lesson, from the point of vocabulary, is built upon the preceding lessons, supposedly. Unlike many programs, an exact tally of the vocabulary would be both a bit difficult and time comsuming to obtain.

Readability Level

Book I actually presents no stories. In Book II there is very little in the way of actual stories and, while Book III does provide more actual reading, to accurately determine the grade level of this series presents a problem. The

Readability Level (cont.)

publishers say : 0-2 for Book I, 3-4 for Book II, and 5-6 for Book III. However, the Spache Readability formula was used to get some indication of the content. The results were as follows:

Sample	Book	Grade Level
1	1	1.97
2	2	2.74
3	2	2.82
4	2	4.08
5	3	2.61
6	3	2.37
7	3	2.59

The average grade level of the content for this series is 2.7.

Steps to Learning, Books 1 and 2. Austin, Texas:
The Steck - Vaughan Company. 1965

General Comments

There are two books in this series. Both books are in workbook style. The general appraoch to the teaching of reading seems a hybrid type. Although many of the workbook exercises stress certain aspects of phonics and structural analysis, the words that are new to a particular story are handled as sight words. Thus there is no application provided for the students in terms of the phonics and structural analysis skills. At times the teacher is given the suggestion of asking students, after they have read a story, to find certain sentences and the approach takes on the aspects of a sentence method.

Comments Relating to Content of Stories

The publishers stress the vocational orientation of the content. The basic approach is pages where four people engaged in various jobs are shown. Under each of the four pictures, there are one or two sentences given which tell what the particular worker does. Thus not much vocational information is given. Among the jobs pictured are: truck driver for lumber company, service station attendant, grocer, carpenter, bus driver, taxi driver, restaurant cook, gardener, breadman, hospital maid, waitress, supermarket checker, cleaner, brick layer, butcher, parking attendant, maintenance man, cafeteria worker, farmer, beauty shop attendant, city street worker, produce stand worker, car wash attendant, TV repairman, bowling alley attendant, hamburger stand owner, rodeo rider, restaurant owner, shoe cobbler.

In addition to the occupations given above, the content includes lessons on reading road signs, lessons where supermarket window has signs with "specials", a lesson on days of the week and filling in a blank calendar, a lesson on the four seasons, a lesson where there are pictures of various items with price tags and stories to tell how much money people have to buy items, a lesson on seeing the President in a parade and voting after listening to candidates, a story of a couple making a budget, a lesson on the importance of social security, a lesson on ordering food from menu in a restaurant, a lesson on going to adult school, a story of a couple who don't put money in the bank and get robbed, lessons on health and cleanliness and importance of good food, a lesson on safe driving.

There are brief stories concerned with the recreational activities of adults. Activities pictured and discussed are: men fishing and hunting, swimming, picnics and barbecues, going to a rodeo, going to drive-in movies, a family watching TV, people plyaing "42", dominoes and card games, a country dance and social.

There is no central character throughout the series but there is a character named Jim who appears in a number of stories. Stories include a man owning and painting a house, a man's hours of working, reading a want ad and going for an interview, a man getting a job and describing his duties and punctuality.

Especially good lessons are those on street and safety signs, filling out an application blank, social security, signs in a supermarket window, people keeping money in a jar at home and then being robbed. There is a minimum of preaching.

There is an attempt to have material appeal to the multi-ethnic groups. Illustrations include Mexicans and Negroes. Names such as Diego and Manuel are used also.

Some questions could be raised about the content. For one thing, there is very little dialogue in the stories. Also even though the various occupations are in the content, the treatment is quite superficial. Specific content about which questions could be raised include story about people playing dominoes, Just how popular is this game? A very questionable lesson that seems out of place includes an elaborate diagram of the digestive system of the human body.

Illustrations

The illustrations accompany each lesson and seem realistic and adequate. Color is at a minimum with mostly shades of gray. The people-at-work illustrations seem to be appropriate.

Presentation of Content Material

Directions are given to the teacher to use pictures that accompany each story to initiate discussion before the material is read. Teachers are also given some suggestions for questions to use after each story so that the material, brief as it may be, can be related to the student's life, job, recreation, etc.

Most of the stories are one-page in length, although toward the end of Book 2, two-page stories appear. In some cases, the story is read first by the teacher before the students read it. In other cases, the story is read first by the students. In these latter cases, nothing is said about what new words are included and how they are to be handled. It is assumed that the teacher is to tell the students words they indicate they don't know. No indication is given as to why, in some cases, the teacher reads the story first. After a number of phonics ideas have been introduced on exercise pages, new words are still treated as sight words.

Teacher's Manual

There is no separate manual. A brief introduction and a few suggestions for procedure are given to the teacher at the bottom of each page. On pages that have word practice on skills, the idea seems to be that the students

Teacher's Manual (cont.)

will learn a principle through doing the practice material as no directions are given to the teacher concerning how to develop a generalization or principle. Some follow-up questions are suggested for the teacher, but no mention is made of such techniques as experience stories, etc.

Word Perception Skills

The order of skill areas introduced is:

a. Auditory and Vusual Discrimination or Beginning Consonants
b. -ed, -s, -ing endings
c. Dividing two syllable words
d. Beginning consonant blends
e. -er ending
f. Consonant digraphs
g. Initial consonant substitution
h. Final consonant sounds
i. Dividing three and four syllable words
j. Long and short vowels (presented together)
k. Silent vowels
l. Prefix re-
m. Alphabetical order
n. Little words in big words
o. The k and s sounds of c
p. r controls the vowels

Comments - The order seems a bit illogical and unplanned. The interesting aspect is that when the idea of dividing two-syllable words first appears, no directions are given to the teacher for developing any generalizations. The students are simply directed, by whatever means, to divide the words into syllables.

(Comments relating to specific workbook exercises will be included in a later section.)

Comprehension Skills

This is a very weak area since nowhere in the booklets are any lessons or exercises relating to the development of comprehension skills. In addition, no sample questions are provided for the teacher to determine the students' understanding of what they have read.

Spelling

There is no direct work on spelling but any number of the exercises included on workbook pages are related to spelling. For example, the handwriting practice work includes practice in writing various words and sentences from stories read. In addition, there are a number of exercises where words are presented with one missing letter and the students are to fill it in.

Handwriting

1. List and order of elements taught:
    a. cursive lower case. e,i,u,w,j
    b. cursive lower case. m,n,v,x,y,z
    c. cursive lower case. a,o,c,d,g,q
    d. practice at putting letters together
    e. cursive lower case. l,b,h,k,f
    f. cursive lower case. r,s,t,p
    g. writing name
    h. cursive upper case. O,C,E,A
    i. cursive upper case. M,N,H,K
    j. cursive upper case. Q,Z,X,W
    k. cursive upper case. Y,U,V,F,D
    l. cursive upper case. L,T
    m. cursive upper case. S,G,L,P,R,B
    n. address writing.
    o. filling out application form.
    p. lower and upper manuscript letters.
    q. numbers 1 - 20

2. Comments - writing practice appears very early - in the third lesson - and continues throughout the two books. Letters are introduced by groups as to how they are formed. Cursive letters are introduced before manuscript.

Types of Workbook Practice Exerciees

1. A number of exercises are designed to give practice in auditory and visual discrimination. These seem traditional and quite well-prepared. These include exercises where students find items that do not belong and exercises where items may have the same sound or letter at the beginning. Their readiness work in this respect is a strong feature of the series.

2. A number of exercises are presented throughout the two books where words are presented that have appeared in previous work but a letter in a word is missing. Students are to fill in the missing letter. This type of exercise has implications in terms of spelling and accurate perception.

3. The use of context is stressed in a number of exercises. Sentences are presented with a word missing. At first the sentences are exact copies of sentences read earlier in stories and choices are given for each sentence. Later exercises become more complex and involve the use of the context to determine the missing word.

4. Unique exercises of value are matching-type exercises where words are presented in both manuscript and cursive and students are to match these two forms of the words.

5. Another exercise with merit involves the matching of word forms. One

Types of Workbook Practice Exercises (cont.)

column has the word in all lower-case letters while in the second column, the word begins with capital letter.

6. In two or three places, lists of words are presented and the students are merely told to mark words they know or don't know. There is no further comment as to what the teacher or the students are to do.

7. A technically unsound exercise which occurs in a number of places involves the search for little words in big words. Examples of words used in this regard are:

bakery shop clean paid washer

8. Another uinque exercise involves a series of phrases and the words "where, when, what, why." Students indicate which of these a given phrase illustrates.

Provisions for Testing and Evaluation

No structured tests appear in the books. The only treatment in this regard is a series of pages appearing from time to time titled "Do You Remember?" These are usually repeated exercises from earlier workbook exercises. No ideas are provided for the teacher as to what to do if students continue to have difficulties with particular aspects.

Vocabulary

1. There is a master list given at the back of each of the two books. This list includes all words introduced in the books. The list is misleading as some of the words listed are only used and introduced on exercise pages and are not included in the stories. The list also has some inaccuracies as some words not included and overlap not accurate from Book 1 to Book 2.

2. Vocabulary Control.

a. Repetition Patterns - a ten per cent sample of all words in each of the two books was drawn and records made as to the number of repetitions. This was done for each book. It was found that seventy-five per cent of the words were introduced and presented only one to three times, and then there was no further repetition. In fact, fifty-eight per cent of the words had only a single presentation. Only twenty-five per cent involved any spaced repetition and this was sporadic. Thus there appeared to be little provision for a systematic controlling of vocabulary repetition.

b. A record was also made of the number of new words introduced per story and the number of new words per running words. Again, no clearly

Vocabulary (cont.)

established control was found. There did appear to be a trend toward the vocabulary load being lower in the second book. In the first book, as many as sixteen new words were introduced in a five-sentence story of 31 running words. The average of new words introduced per running word for the two books was:

Book 1 - 1 new word per 3.29 running words
Book 2 - 1 new word per 8.88 running words

Readability Level

The Spache Readability Formula was used to assess the readability level of the two books since the publishers and other have indicated that this series would be of use in Level 1 (0-3 grade) classes. Three samples from the beginning, middle, and end of each book were taken. Results were as follows:

Sample	Grade Placement
Book 1 - Beginning	2.2
Book 1 - Middle	2.2
Book 1 - End	3.1
Book 2 - Beginning	2.4
Book 2 - Middle	2.6
Book 2 - End	2.1

Average Grade Placement Book 1 - 2.5

Average Grade Placement Book 2 - 2.4

Reading in High Gear. Dr. Myron Woolman. Chicago, Illinois:
Science Research Associates, Inc., 1964

General Comments

This program was specifically designed, the publishers state, as a program for culturally disadvantaged adolescents, dropouts or pre-dropouts. Although the program was not designed for the functional illiterate, they indicate that it could be used with them as well as serving as a remedial program in a school situation.

The author and publicher describe this program as one of progressive choice and although there are very elaborate and detailed instructors' manuals for each of the three cycles, the rationale of the program is one of self-instruction. The reason given for this is the probability that it will be used by untrained volunteer instructors.

They suggest that completion of the program (in anywhere from 150-300 instructional hours) will permit students to function at approximately the 8th grade level in so far as word attack skills are concerned. Grade level equivalents have not been designated for any portion of the program.

Cycle I consists of four workbook type tests for the student and two teacher's or instructor's manuals. Cycles II and III have two student texts and one instructor's manual each. All of the student texts are consumable.

Comments Relative to Content of Stories

Cycle I contains little or no content of any kind with a theme. Once they present sentences of any kind, one finds it difficult to be very enthusiastic. Many of the sentences are poor examples of good grammar and contribute little to a body of knowledge. Much of the vocabulary might be considered "slang". The content in Cycle II is also limited but deals with crime and an attempt to prove "crime does not pay," sports-boxing, teenage gangs, cars and speeding, and the development and construction of a rocket gun. This latter selection is long, and the story dealing with speeding is not too realistic when it comes to punishment for the damage done.

The first three segments of Cycle II present simplified versions of Gulliver's Travels, The Three Musketeers, and The Last of the Mohicans. The last two segments present limited reading content and many of the stories are rather unusual for a program of this type. Included are excerpts from the Declaration of Independence and Edgar Allen Poe.

The general impression of the content is that it fails to provide much concrete, useful information which the older students could readily use and appreciate. Compare this with the publisher's description of content: "designed to effect desirable changes in students' attitudes and healthier social orientation."

5 me J.

Illustrations

The illustrations are all in conjunction with the workbook exercises to teach and reinforce the learning of words and their meanings. They are fairly simple black and white drawings with representative sketches of various ethnic groups and age levels.

Presentation of Content Material

It would be impossible for a student to do anything with this program without instruction. Thus it is that the instruction manuals for Cycle I are very explicit. This cycle is almost entirely concerned with learning to identify and write the upper case letters of the alphabet and one syllable words in which only the short vowel sound is heard. Throughout this Cycle, a 1-1 relationship between sound and symbol or letter is maintained and only the letter Q is omitted. No alphabetical names are used and any sequential order is strictly accidental since gross differences is appearance and structure (for example: H-B-C) were the primary concern in selecting the order in which the letters are taught. It is not until segment 7 that much reading of any kind is done. Here the student is checked regarding word recognition and some minimal comprehension of what has been read. Nonsense syllables are interspersed with real words and the comprehension is dependent upon the correct completion of short, simple sentences.

In Cycle II the lower case letters are introduced along with the letter Q and phonetically "consistent compounds" such as "ea" as heard and seen in such words as meat, meal, real, etc. (No one says anything about such words as hear, fear, etc., with "r" controller.) This also includes consonant blends diagraphs and diphthongs. The letter names are introduced as the alphabet is taught in sequence. Tools of grammar such as capitalization and punctuation are also taught as they appear in context. The letter "e" and its role of "operator" is pointed out via the use of known words to which "e" is added. (For example: man-mane, fad-fade, hat-hate.) With this comes the need to identify the long vowel sound so we have the diacritical markings for the long and short vowels. (For example: period -- p e r i u d. Do you recognize it?) This is accompanied by some elementary rules relative to the use of the dictionary.

The last Cycle (III) is primarily concerned with variations and irregularities in our written or printed language. Emphasis is put on spelling, cursive writing, and the use of the dictionary.

Teacher's Manual

The four Instructors' Manuals provide very detailed instructions and directions for presenting the materials. For each page and item in the student's book, the instructor's book spells out in detail the specific learning objectives, the basic instructional procedures (actually tells the

Teacher's Manual (cont.)

teacher what to say) and the responses the teacher should endeavor to obtain if the student is to progress to the next item, and for those who do not respond correctly, corrective or reteaching procedures are listed.

Word Perception Skills

Those skills given consideration are:

1. Initial and final consonants
2. Consonant blends
3. Endings
4. Compounds
5. Little words in big words
6. Syllabication

Emphasis upon each step or item following the five learning levels is heavily stressed.

1. Audial Meaning Level: Learn to associate pictures or illustrations and sounds and acquire meaning
2. Visual Discrimination of Shapes: Learn to associate sounds and shapes of letters and print letter shape used in a word.
3. Identification: Identify letter shapes with their sounds and writing of the letter and recognizing new words on the basis of known words.
4. Compounding: Learn to blend sounds into a perceptual unit. Identify and print letter sounds (sequence of even meaningless blends)
5. Visual Meaning: Read words understood in speech. Do this by printing selected words.

The alphabet, letter neames, and sequence are not taught until Cycle II. Short vowels are taught first. Tools of capitalization and punctuation are taught as the need for them is considered significant. Use of the dictionary is introduced and practice exercises in looking up words is provided.

Comprehension Skills

Explanations by the teacher precede most lessons. However, exercises in sentence completion, use of context clues in attacking given words, use of dictionary, developing sentences using selected words and matching words with the appropriate meaning, etc. are all used. There does, however, appear to be little provision for discussion of story content. This seems to be covered in a factual manner with sentences to be completed, so there is little opportunity to expand beyond the immediate program unless the teacher wishes to do so.

Spelling

There is a certain amount of incidental spelling practice in Cycles I and II in the recognition of words, word building, sentence completion and cross word puzzle exercises. However, in Cycle III, segment 2, the students print words from letter names. In segments 3, 4, and 5, spelling becomes a specific subject. There are exercises similar to spelldowns. There are sentences in which the student checks the spelling of underlined words, even some where he selects the letter sequence which makes certain sounds.

Handwriting

In Cycles I and II, the students learn to write the alphabet (first upper case, then lower) using the manuscript style. In Cycle III, the students learn to read and write material presented in cursive style.

In each case, tracing is followed by writing of the letters as the sound of this letter is taught. The primary reason for the letters being taught in the order in which they appear seems to be the plan to have gross differences in both appearance and structure.

Types of Workbook Practice Exercises

Most of the exercises which are not specifically handwriting (the authors say that the latter is part of the plan to strengthen and reinforce perceptual learning) deal with vocabulary building via matching exercises, sentence completion, etc. There are exercises in selecting pictures which illustrate sounds, words and/or ideas: matching first letters then words; identification of words starting and ending with letters in words pronounced, and practice in looking words up in the dictionary to find meaning and check the correct syllabication and accent.

Provision for Testing and Evaluation

In the early stages there is a certain amount of built-in review in word building exercises in writing practice, etc. However, there is provision for checking a student's mastery of each item. This can be oral as well as written and as the program progresses, the amount of independent work to be done by the student increases. The teacher's manual provides for additional instruction in the case of those who may not fulfill the "Required Learner Responses," get a check indicating their readiness to progress to the next item. In addition there are progress tests which can be given at the end of each segment in Cycle I. There are three titled "Student Helper Progress Tests". There is also a final checkout test for Cycle II and one for Cycle III. These are all short answer tests requiring a minimum amount of writing. The exercises are all similar to those which the student has done as a part of the program.

Vocabulary

The word building exercises and the dictionary work etc. all tend to extend the vocabulary potential of the program. Also, there seems to be no explanation concerning the rationale of the vocabulary taught. Because of the way in which this program is organized, word repetition as we usually think of it in a given selection does not really exist.

In any event, there are many words which appear which would seem to offer little utility to the illiterate, the retarded or the slow learner. For example: berate, annotation, aureale, cyst, articulate, notable, lagoon, carrion-eating, etc.

Readability Level

The readability level of the content in this program was difficult to determine in as much as samples could not really be selected at even intervals throughout the three Cycles. However, the Spache Formula was applied to six samples. Very little actual reading of any kind of content is done in Cycle I. It is not until the last two segments of this Cycle that content of any kind is presented. Therefore, the samples in Cycle I are from segments 9 and 10.

The results of the samples are as follows:

Sample	Cycle	Grade Level
1	1	3.00
2	1	4.14
3	2	3.52
4	3	2.84
5	3	5.92
6	3	4.25

The average grade level for this program (complete)is 3.9.

APPENDIX B

Summary of Interviews with Teachers of Adult Literacy Education Classes

APPENDIX B

The following data are the results of the interview study with teachers of adult basic literacy classes. Included in these data are the questions asked by the interviewer, the answers to the questions and a summary for each question.

A. Teacher characteristics and Training

Question 1. What kind of teaching background do basic education-teachers have?

Findings: Fifteen of the 35 teachers had no previous experience working in adult reading program. The nineteen others had previous experience in various types of programs including voluntary, military, public schools, OEO Title - 5, prisons, Americanization, and M D T A. No teachers had had previous experience in OEO Title 2-B programs.

Five of the thirty-five teachers had had no previous teaching experience of any kind. Seventeen had taught reading in either elementary or secondary schools, one had experience in the teaching of remedial reading and the fourteen others had various other teaching experiences.

Summary of Findings: Most of the teachers interviewed had previous teaching experience of some kind. About half had previous experience in the teaching of reading in elementary and secondary schools and about half had previous experience in adult reading programs.

Question 2. What qualities should a teacher have to be successful in teaching adult illiterates?

Findings: A variety of qualities were suggested, but the preponderance of comments related to personal, affective characteristics as opposed to cognitive traits or technical skills. Fifty-nine statements by the teachers concerned personal characteristics and teacher attitudes and twelve statements were concerned with skills, training, and intellectual ability. Not included in either of the above categories were the four statements indicating a preference for men teachers and two statements to the effect that adult literacy teachers should have the same qualities as all teachers.

Summary of Findings: Teachers stressed the importance of personal qualitites such as being understanding and sympathetic and having respect for others.

Question 3. What areas or topics should be included in a training program for teachers of illiterates?

Findings: Topics for teacher Training	Number of Teachers
1. General background of students to be taught	8
2. Nature of materials to be used	8
3. Psychology of adults	6

4.	Method of instruction	6
5.	Remedial reading techniques	4
6.	Phonetic content	1
7.	Aims in teaching	1
8.	Practice teaching	1
9.	Classroom observation	1
10.	Learning theories	1
11.	Social subjects	1
12.	Determination of teacher motivations	1
13.	How to act toward students	1
14.	Same preparation as any teacher	1
15.	Don't know	7

Summary of Findings: Statements were made concerning both the technical knowledge of the materials and their use and the nature and characteristics of the adult students.

Question 4. Are adult literacy teachers familiar with i.t.a.

Findings: Of the twenty-six teachers asked, twenty-one indicated that they were not familiar with i.t.a. Five indicated that they were familiar with it. None of these five teachers had more than a casual idea of what i.t.a. is, and none of the five was familiar enough with the medium to use it without special training.

Summary of Findings: The majority of teachers had no knowledge of i.t.a., and none of the teachers had a "teaching knowledge" of the medium.

B. Student Motivation and Interests

Question 1. To what extent is some type of compulsion necessary to develop classes?

Findings:	Not necessary	11
	Necessary in some instances	15
	Necessary in most instances	4
	Very necessary	0

Summary of Findings: The majority of teachers believed compulsion to be necessary in at least some instances although all were agreed that some student required no compulsion.

Question 2. If compulsion is used, do teachers believe a program and materials can then build motivation?

Findings: Seventeen of the 30 teachers asked indicated that motivation can be built. Twelve said they didn't know, and one said no. Teachers answering yes, and commenting on the answer, seemed to place more importance on the teacher than the materials.

Summary of Findings: Although a large number of teachers were unable to express an opinion, the majority felt motivation could be built.

Question 3. Why do students volunteer for reading classes; what is their motivation?

Findings: Teachers indicated a variety of reasons, but these seem to group themselves into categories. These categories and the number of responses in each category are as follows:

(1) A non-specific, generalized desire for self improvement. This includes such comments as "want to learn more because they feel inferior." (19)

(2) Various specific reasons representing a desire to learn or self improvement in a specified area. Examples of this include passing a drivers test and reading the Bible. (18)

(3) General and specific vocational motivation. (19)

(4) Various external motivations such as "friends are going to school" and "want the money". (5)

(5) Want school diplomas (2)

Question 4. Is the students' motivation to learn to read affected by the content of the materials, or does it make any real difference to them what they read?

Findings: Of the twenty-nine teachers asked this question, fifteen said no, twelve yes, and two said they didn't know. Those answering "no" generally emphasized the role of the teacher and the high level of motivation in their students indicating that they would "put up with anything". Teachers answering "yes" generally stressed a need for context of materials to be of an adult nature and within the experience of the readers.

Summary of Findings: No clear trend appeared in the teachers responses. Teachers seem not to agree about the degree of effect materials have on motivation. There seemed to be no disagreement that some materials could be more interesting and therefore more motivation than others, but there was disagreement as to the relative importance of this.

Question 5. Does age affect motivation?

Findings: Of the twenty-nine teachers answering this question, twenty-five thought age does affect motivation, four thought that it does not. Twenty-one of those answering yes thought the older students were more motivated; three thought the younger students were more motivated and one considered them equally motivated, but in different ways. This one teacher believed the younger to be more concerned with general self-improvement.

Summary of Findings: Most teachers consider the older students to be more highly motivated.

Question 6. Is it necessary to modify the content of the material with respect to the sex of the reader?

Findings: Eighteen teachers said "no", four teachers said yes, and six teachers said they didn't know. Several of these teachers had only men students and no basis for making a judgement.

Summary of Findings: Most teachers thought it is not necessary to modify the content of the material with respect of the sex of the reader.

Question 7. What interests, either vocational or non-vocational have students expressed?

Findings: Of the thirty-three teachers asked, thirteen indicated that they knew of no interests their students might have. Twenty indicated various interests that their students had expressed. These included different types of occupations such as auto mechanics, welding, etc., and activities such as church work, Viet Nam and current events. No one thing was mentioned by more than four teachers.

Summary of Findings: Slightly less than two-thirds of the teachers asked were able to indicate a topic in which students had expressed an interest. No clear or unusual trends in these interest areas was apparent.

Question 8. Have students ever indicated what they would like to read?

Findings: Exactly half of the thirty-four teachers asked responded yes, and half responded no.

C. Drop Out

Question 1. Do students drop out because of materials used?

Findings: Thirty of the thirty-two teachers asked indicated that they knew of no instance where a student left the program because of the materials being used.

Summary of Findings: The teachers indicated that students very rarely leave programs because of materials used.

Question 2. What kinds of reasons are given for students dropping out of program?

Findings: A wide variety of reasons were given, almost all of them relating to various personal problems at home or transportation difficulties. Seven teachers indicated students had left to get jobs. Reasons related to the programs were mentioned only three times. These were such things as disliking the teacher or being bored

Summary of Findings: Stated reasons for dropping out related primarily to personal and home problems over which reading programs would not normally have control.

Question 3. How can one tell when a student is about to drop out of the program?

Findings: Of the twenty-six teachers responding to this question, eleven indicated they knew of no way to identify which students would drop out. Nine of the fifteen other teachers indicated irregular attendance as an indicator. Four said students say things to indicate they are leaving and three said students act like they don't care and are dissatisfied.

Question 4. What is being done to prevent students from dropping out?

Findings: Eight of the twenty-five teachers asked this question indicated that nothing special was being done about drop outs. The other seventeen teachers gave a variety of answers including use of counselors (8), use of case workers (6), telephone calls (5), cards mailed home, "foster group togetherness", (1), and "good teaching", (1). Six indicated that they talked with their students about it. Answers to this question were largely directed by the specific program in which the teacher worked.

Summary of Findings: Nothing unusual or new was mentioned although a majority of teachers indicated various ways in which a special effort was made to reduce the number of drop outs.

D. Student Characteristics

Question 1. Which types of tests, if any, should be given to adult illiterates prior to their receiving instruction in reading?

Findings: Categories of responses and number of teachers indicating that type of test are listed below. Twenty nine teachers were asked.

Intelligence	8
Reading achievement	21
Vocabulary level	9
Interest inventory	5
None	3
Other tests	10

Some of the other tests mentioned were arithmetic achievement, vision, and hearing tests, and reading diagnostic tests.

Summary of Findings: The great majority of teachers considered some type of testing before the beginning of reading instruction to be appropriate and helpful. Reading achievement and vocabulary tests were the most frequently suggested.

Question 2. Does age affect learning ability?

Findings: Of the twenty-eight teachers answering this question, eleven said yes, and seventeen said no. The concensus among the eleven answering yes was that older persons were less able than younger persons.

Summary of Findings: The majority of teachers do not believe age is related to the ability to learn. Among the minority who do feel age affects learning ability, there is agreement that older students are less able.

Question 3. What is the average attention span of the illiterate to any one task?

Findings: Twenty two teachers responded as follows:

Time	Number of Responding
Less than 1 minute	1
1-4 minutes	1
5-9 minutes	0
10-19 minutes	3
20-39 minutes	7
40-59 minutes	9
Don't know	1

Summary of Findings: The majority of teachers considered the attention span of illiterates to be twenty minutes or more.

Question 4. How does spoken vocabulary of adult reading student compare with the general adult population?

Findings: Thirty-two of the thirty-three teachers asked indicated that their students spoken vocabulary level was lower than that of the general population. The one other teacher was unwilling to estimate the relative levels.

Summary of Findings: Students in adult literacy classes generally have a lower spoken vocabulary level than does the general population.

Question 5. What speech mannerisms, such as colloqualisms or sub-standard English, have teachers observed?

Findings: Four of the thirty-three teachers asked indicated that they had observed no particular speech mannerism. Twenty nine teachers indicated that they had observed various speech mannerisms such as colloqualisms or sub-standard English. Although answers were generally in broad terms such as "Negro dialect" and "sub-standard grammer", some specific examples were given. These included using wrong verb tense and dropping word endings.

Summary of Findings: Most teachers believe students use substandard English.

Question 6. What is the opinion of teachers as to how long it would take for a completely illiterate adult to achieve sixth grade reading level, assuming a highly motivated adult with low average ability?

Findings: The number of teachers estimating the various numbers of instructional hours follows: (27 teachers were asked)

Time	Number Responding
80 hours or less	1
81 - 140 hours	3
141 - 180 hours	2
181 - 220 hours	0
221 - 260 hours	0
261 - 300 hours	1
More than 300 hours	15

Five teachers indicated they couldn't estimate how long it would take.

Question 7. Were most of the students of teachers interviewed employed or unemployed?

Findings: Twenty-four of the twenty-nine teachers asked this question answered unemployed. Five teachers said most of their students were employed. Types of jobs listed were generally unskilled or semi-skilled as would be expected.

Summary of Findings: The teaching experience of teachers interviewed was primarily with persons unemployed at the time of instruction.

E. Classroom management and procedure.

Question 1. How long should a class session last?

Findings: The twenty eight teachers asked this question responded as follows:

Time	Number Responding
Over 60 minutes	7
50-60 minutes	17
45 minutes	4

The range of suggested times was from 45 to 180 minutes.

Summary of Findings: Most teachers believe the traditional class period of 50 - 60 minutes is appropriate for adult reading classes.

Question 2. Has it been necessary to develop rules concerning personal conduct and/or grooming?

Findings: Of twenty-six teachers, nineteen indicated that it had had not been necessary to develop any particular rules. Seven teachers indicated that rules had been made concerning dress and/or behavior, four said rules had been made about dress (women wearing slacks), two said rules were made about talking and one indicated rules were necessary about drinking. Students causing trouble were generally the younger ones. Two teachers commented that older students help keep the younger ones "in line."

Summary of Findings: The majority of teachers did not find it necessary to develop rules for conduct or dress. Those mentioning difficulty indicated the younger students caused relatively more trouble.

Question 3. Do the student's speech mannerisms interfere with the teaching of reading?

Findings: Of thirty teachers asked, fourteen said yes, fifteen said no and one was unwilling to attempt an answer. Two other teachers said students' speech mannerisms caused difficulty in their subjects, grammar and mathematics.

Summary of Findings: Teachers were evenly divided on this question.

Question 4. How is the problem of different speech mannerisms being handled?

Findings: The twenty eight teachers asked this question answered as follows:

Ignored the problem	2
Corrected but not emphasized	5
Corrected with reference to standard usage	19
Other	2

Summary of Findings: Most teachers correct their students speech with reference to standard usage.

Question 5. Do students mind being corrected?

Findings: Twenty-three of the twenty-six teachers asked indicated that the students do not mind being corrected. Two of the three teachers who said "yes" made specific statements to the effect that only young students minded and that older students did not mind being corrected.

Summary of Findings: Students, particularly older students, do not mind being corrected. The assumption seemed understood that corrections should be done with appropriate tact.

Question 6. What is the maximum class size for effective learning?

Findings: Thirty three teachers were asked this question. Their responses were as follows:

Class Size	Number of teachers
6-10	5
11-15	18
16-20	6
over 20	4

The range was 6 to 30 pupils.

Summary of Findings: Class size for effective learning should certainly be less than twenty and very likely less than sixteen.

Question 7. What are the sizes of adult reading classes?

Findings: Twenty-nine teachers were asked to indicate the number of pupils in their classes. Their responses in categories are as follows:

Class Size	Teachers
6-10	7
11-15	10
16-20	3
over 20	9

Range was 7 to 30.

Summary of Findings: Class sizes differ considerably, but two-thirds of the teachers have twenty or fewer pupils. A majority of the classes had fifteen or fewer pupils.

Question 8. How are students grouped into reading classes?

Findings: Two programs used "home-made" placement tests, three used the Stanford Achievement Battery, and one used the California Achievement Test. Individual classes generally included persons reading over a range of three or four grade levels. Two teachers indicated that their class had not been grouped by the program. Individual tests were not used.

Summary of Findings: All teachers were working in programs which attempted to group students into class sections according to appropriate reading level. A variety of group achievement tests were used. Classes typically have students ranging in ability from one to three or four grade levels.

Question 9. What grouping procedures are being used within reading classes?

Findings: Thirteen of the thirty-two teachers asked indicated that they were using various grouping procedures within their classes. Achievement level grouping was mostcommon although one teacher grouped by student interests, and one grouped her classes according to when the students entered the class. Eleven teachers indicated that instruction in their classes was primarily or entirely individual. Eight teachers used whole-group methods altogether.

Summary of Findings: Various grouping procedures are being used by slightly more than one-third of the teachers. About one-third of the teachers use individual instruction primarily or entirely and slightly less than one-third use whole group methods.

Question 10. What kind of rewards are being used with adults?

Findings: Six of the twenty-eight teachers who were asked about rewards indicated that they had no system of reward for their students. Certificates of attendance, diplomas, and promotions were mentioned eleven times. Ten teachers graded papers and using personal praise or program charts were mentioned by three teachers. Money and special privileges (prisons) were mentioned four times.

Summary of Findings: No unexpected systems of reward were being used. Reasons why teachers do not use various techniques more, such as grades on papers, were not determined.

Question 11. Are teachers using the experience approach, and if so, how helpful has it been?

Findings: Very few of the teachers interviewed were familiar with the experience approach. Only two teachers had used the experience story approach as described by Harris. One of these teachers considered it "helpful with some students" and the other thought it was "very helpful". One story that students had developed dealt with the difficulties involved in getting a baby-sitter.

Summary of Findings: Two of the thirty-one teachers asked had used the experience story method as described by Harris. These teachers considered it helpful to at least some students.

F. Evaluation of Materials

Question 1. What published instructional material have teachers used?

Findings: A wide variety of materials have been used. Books and materials mentioned most often were miscellaneous children's books mentioned by fifteen teachers; Readers Digest Series, eleven teachers; S R A - Reading Laboratory, ten teachers, I Want to Read and Write, seven teachers; newspapers, five teachers; Systems for Success and Webster's New Practice Readers, four teachers each.

Summary of Findings: Most of the teachers interviewed had been using materials designed for children.

Question 2. How appropriate did teachers consider the content to be of the materials they used?

Findings: The thirty four teachers asked responded as follows:

Response	Number Responding
Not appropriate	19
Not important	1
Appropriate	12
Don't know	2

Summary of findings: Over one-half of the teachers felt the content of materials being used to be inappropriate for their students.

Question 3. Was there a difference in the materials being used by teachers who were indicating content to be inappropriate and appropriate?

Findings: Teachers in both groups used a wide variety of materials, designed for children. Eleven of the fifteen teachers indicating use of miscellaneous children's books felt the content to be inappropriate. Two teachers using miscellaneous children's books indicated the content to be appropriate. However, there was no major difference in the numbers using specified children's materials.

Summary of Findings: Teachers indicating content of materials to be appropriate were using the same types of materials as teachers believing the content to be inappropriate.

Question 4. What suggestions do teachers have for improving the content of materials?

Findings: Twenty-eight suggestions made by teachers interviewed related to subject matter and seven suggestions related to technical aspects of the material. Suggestions for improving subject matter included avoiding children's things, seven teachers; stories of adult activities and of general interest to adults, five teachers; more realistic material, three teachers and more practical and useful material, two teachers. Suggestions for improving technical aspects including more writing exercises and keeping stories short. Areas of content suggested by teachers are listed below:

	Areas of Content	Numbers of Teachers
1.	Current Events and Newspapers	9
2.	Getting the most for their money	8
3.	Family life (childrearing)	8
4.	Getting a job	7
5.	Laws and government	6
6.	How to get along with others	6
7.	Biographies	5
8.	Avoiding "slick" salesmen	5
9.	Street signs	4
10.	Science and nature	3
11.	Proper dress and manners	3
12.	Children in school (lessons, report cards)	3
13.	Payment of interest and "loan sharks"	2
14.	Sociological and economic situations	2
15.	Letter writing	2
16.	Biblical stories	2
17.	Filling out forms	2
18.	Budgeting	2
19.	Approaching people	2
20.	Illness and health, danger of home remedies	2

21.	Expressing themselves	2
22.	Insurance	1
23.	Automobiles	1
24.	Positive stories about involvement with law	1
25.	Automation and unemployment	1
26.	Sports	1
27.	History	1
28.	Things to be used in everyday life	1
29.	Welfare and social security	1
30.	Fair wage law	1
31.	Want ads	1
32.	Jobs	1
33.	People who have overcome hardships	1
34.	Geography	1

Summary of Findings: Teacher'ssuggestions for improving the content of materials seem to reflect the feeling that these students have adult interests and needs which should be dealt with in instructional reading materials.

Question 5. Do students complain about the materials used?

Findings: Of the thirty teachers asked, sixteen said no, twelve said yes and two could give no answer. The number of students who had complained was not asked, but the impression was that only a small minority registered complaints.

Summary of Findings: About one-half the teachers had heard complaints about the materials.

Question 6. How adequate were the teacher's manuals?

Findings: Twenty-three of the thirty-two teachers asked indicated that teacher'smanuals had been available. These twenty-three evaluated the manuals as follows:

Comment	Number Responding
Unsatisfactory	4
Satisfactory	12
Very satisfactory	6
No response	1

Summary of Findings: Most of the teachers who had access to teacher'smanuals considered these manuals to be satisfactory.

Question 7. What suggestions do teachers have for improving teacher's manuals?

Findings: Fifteen of the twenty-three teachers who had teachers' manuals available gave no suggestions for improving manuals. The eight other teachers had a variety of suggestions most of which centered around a felt need for activities more suitable for adults. Suggestions were also made that the manuals should be simpler and that they should be programed.

Summary of Findings: Most teachers had no suggestions for improving teacher's manuals, but the suggestions of those who did make comments were largely related to the adult status of the students and were consistent with suggested changes for the subject matter of reading materials.

Question 8. Are the basic reading books being used adequate for teaching adults how to read?

Findings: Nine of the thirty-five teachers did not use a basic reading book. Of those using a basic book, fourteen indicated that the basic book was adequate, eight said it was not, and four didn't know.

Summary of Findings: Teachers were divided in their evaluation of the adequacy of basic reading books, and no definite or strong trend toward acceptance or rejection was apparent. However, the number of teachers not using a basic book may in some instances reflect a lack of satisfaction with the basic book approach or the materials available.

G. Physical characteristics of materials

Question 1. How important are illustrations to adults in the materials they read?

Findings: Twenty-five of the thirty-three teachers asked indicated that illustrations were "very important". Three teachers thought illustrations "not important". Others indicated they didn't know.

Summary of Findings: Most teachers thought illustrations are important to the students.

Question 2. Should there be larger print at first and then decreased in size?

Findings: Of the twenty-nine teachers who were asked and responded, nineteen said "yes", four said "no", and six said they didn't know.

Summary of Findings: A majority of the teachers believed print size should be larger at first and then decreased in size.

Question 3. What difference, if any, does the number of pages in the book make?

Findings: Sixteen of the twenty-eight teachers who were asked indicated that the number of pages does make a difference. Fifteen of these sixteen thought smaller books were preferable. Six teachers thought it made no difference and six said they didn't know.

Summary of Findings: Although nearly one-half the teachers believe it makes no difference, nearly all of the others feel small books are preferable. There seemed to be no feeling that small books were necessarily considered childish.

APPENDIX C

Summary of Interviews and Testing of Adults in Literacy Education Classes

APPENDIX C

A. Description of Students Interviewed

Question 1. Age of Subjects?

Age Ranges	Men	Women	Total Number of Students
17-20	9	0	9
21-30	10	0	10
31-40	8	3	11
41-50	4	6	10
Over 50	6	2	8
	37	11	48

The Total range was from 17 years of age to 59 years of age.

Question 2. Race of subjects?

Race	Men	Women	Total Number of Students
Negro	14	7	21
Caucasian	23	4	27
	37	11	48

Question 3. Marital Status?

Status	Men	Women	Total Number of Students
Married & living with spouse	20	2	22
Single	12	1	13
Other	5	8	13

Question 4. Number of Children?

Number of Children	Men	Women	Total Number of Students
1	5	2	7
2	2	0	2
3	6	4	10
4	2	1	3
5	2	1	3
6	1	0	1
7-10	3	2	5
Total having children	21	10	31

Question 5. Employment Status?

Status	Men	Women	Total Number of Students
Employed	1	4	5
Not employed	36	7	43
	37	11	48

Question 6. Student's highest grade completed in school?

Grade	Men	Women	Total
0-3	10	2	12
4-6	7	4	11
7-9	12	2	14
10-12	7	3	10
D.K.	1	0	1

Question 7. Employment status of student's husband or wife?

Status	Men	Women	Total
Employed	4	0	4
Not employed	16	2	18
Not asked	17	9	26

Question 8. Highest grade in school for student's wife or husband?

Spouse's Highest Grade	Men	Women	Total
0-3	2	1	3
4-6	0	0	0
7-9	7	3	10
10-12	10	0	10
Over 12	1	0	1

B. Information About Student's Parents

Question 1. How far had the student's parents gone in school?

Father's grade in school	Men	Women	Total
0-3	6	2	8
4-6	2	2	4
7-9	6	1	7
10 and over	4	1	5
Don't know	18	2	20
Not asked	1	3	4

Mother's Grade in School	Men	Women	Total
0-3	2	1	3
4-6	4	1	5
7-9	11	2	13
10 and over	6	2	8
Don't know	13	2	15
Not asked	1	3	4

Question 2. Could the student's parents read and write?

Response category	Men	Women	Total
Fathers could read	24	8	32
Fathers could not read	8	1	9
Didn't know if fathers could read	5	2	7
Mothers could read	29	8	37
Mothers could not read	4	3	7
Didn't know if mothers could read	4	0	4

Question 3. What kind of work did the student's parents do?

The student's parents had worked at a variety of jobs most commonly at the unskilled and semi-skilled levels. Nearly one-half of them had been farm workers. Nine men did not know what their father's occupations had been.

C. Motives and Reading Background

Question 1. Why do students enter reading classes, what is their motivation?

Response category	Men	Women	Total
Required and misc. reasons	4	0	4
Direct vocational reasons	15	7	22
Communications skills	9	3	12
Various non-vocational reasons	19	6	25

Vocational reasons were such direct statements as "to get a better job," or "need it for work." Such statements as "want to improve myself," "Want to stop depending on others" and "want to be better educated" were categorized as non-vocational reasons. Statements such as "learn to write letters" and "want to be understood" were placed under communications skills.

Question 2. What reasons do students give to explain their lack of reading proficiency?

Reasons	Men	Women	Total
Don't know	5	0	5
Unpleasant school experiences	9	0	0
Didn't think it necessary	12	4	16
Help family get money, work	14	6	20
Moved frequently, transportation problems and sickness	6	1	7
Cost too much	0	1	1

All of these categories except "don't know", imply irregular school attendance or an early exit from formal schooling. Home and family reasons and not reasons directly related to the schools themselves predominated. Implied in the answers given was often a factor of economic necessity as well as a basic attitude on the part of parents and the students (as children) that education was not of major importance. Students interviewed, with very few exceptions, seemed to have no doubt of their ability as children to have learned to read and write. They did not explain their poor reading by attributing it to any lack of ability within themselves.

Question 3. What problems do people have because they can't read well enough?

Problems	Men	Women	Total
Vocational	14	8	22
Emotional	5	4	9
General, broad difficulty	13	4	17
Legal	3	0	3
Various specific complaints	10	5	15
Don't know and none	6	2	8

The "emotional" category includes such responses as "being ashamed", "being afraid," etc. The "various specific complaints" category includes such responses as "can't read the Bible", "can't go places", "depend on others," etc.

D. Reading and Writing Interests

Question 1. What would students like to read or read about?

Response categories	Men	Women	Total
Vocational related materials or topics	8	2	10
Personal improvement	9	3	12
General information	55	13	68
Practical information and skills	34	10	44
Recreational	4	3	7

Obviously the above response categories are not altogether discrete.

Examples of vocational related topics are:

1. Job applications
2. Carpentry
3. Farming
4. Jobs

Examples of recommendations considered in the personal improvement category are:

1. How to conduct yourself better
2. How to speak
3. How to diet
4. Talk better

Examples of General Information topics are:

1. History
2. Newspaper
3. Government
4. Bible

Examples of Practical Information and skills topics are:

1. Social Security regulations
2. How to raise children
3. Want ads
4. Insurance
5. Making a budget

Examples of Recreational topics are:

1. Stories with happy endings
2. Sports
3. Science fiction
4. True stories

Question 2. Have the materials used in classes been interesting to the students?

Response category	Men	Women	Total
Yes	31	10	41
No	4	0	4
Not asked and other	2	1	3

Question 3. Examples of materials students have especially liked:

Materials liked	Men	Women	Total
None and can't tell	5	1	6
General information	36	11	47
Practical information and skills	15	5	20
Recreation	1	3	4
Specific instructional series	3	0	3

Question 4. Examples of materials students have especially disliked:

Materials Disliked	Men	Women	Total
None disliked	22	9	31
Grammar and language development	6	1	7
Science materials	2	0	2
Vocational materials	2	0	2
Children's books	1	0	1
Stories that can't be finished in one session	1	0	1
Everything	1	0	1

Question 5. Would students prefer reading books with or without pictures?

Response category	Men	Women	Total
With	23	5	28
Without	11	2	13
No preference	1	2	3
Not asked	2	2	4

Question 6. Would students prefer that pictures in the reading books be of persons of their own race?

Response category	Men	Women	Total
Same race	2	0	2
Doesn't matter	33	7	40
"Both races"	0	1	1
Not asked	2	2	4

Question 7. Would students rather learn to write words or would they just as soon learn to print words if the printing was easier and faster to learn?

Response category	Men	Women	Total
Write (cursive)	22	4	26
Print (manuscript)	8	2	10
Both of above	5	2	7
Not asked	2	3	5

Students indicating they wanted to both print and write were in effect saying they would not be satisfied with printing.

E. Vocational Background and Interests

Question 1. What jobs have students had?

Students have had a wide variety of jobs predominately at the unskilled and semi-skilled levels. Only very few have been self-employed. Nevertheless, the majority of students had a background of vocational experiences in a variety of occupations.

Examples of the previous vocational experiences of these students were: farm worker, janitor work, service station work, construction work, and truck driving.

Question 2. What have students liked about their jobs (either present or past jobs)?

Liked	Men	Women	Total
Don't know and nothing	4	7	11
Interpersonal relationships	10	3	13
Learning experience	3	0	3
Independence and responsibility	10	0	10
Physical working environment	12	0	12

Liked	Men	Women	Total
Ability to do work and ease of work	3	2	5
Economic factors	3	0	3
Specific tasks involved	13	2	15
Miscellaneous	1	1	2

Ease of work did not necessarily imply "snap jobs" so much as something not physically demanding. This response was given, for example, by one women who felt she was getting too old to scrub floors on her hands and knees for a living. Specific tasks included such responses as "just like running machines," "like to cook," etc. Physical working environment included six responses indicating that the student had liked working outside and six responses indicated that the student had liked working inside.

Interpersonal relationships included such statements as "being around people" and "nice boss", learning experience included such comments as "learned to operate a crane," and "learned to read blue prints." Example of the independence and responsibility category were "it had responsibility", and "liked being independent." Three persons emphasized the "steady" nature of their previous jobs and the regular income they had provided. This was considered an economic factor. Examples of those liking jobs because of the specific tasks involved were "like physical work", "like to cook," "like to drive" and "working with hands."

Question 3. What have students disliked about their jobs (either present or past jobs)?

Disliked	Men	Women	Total
Don't know and nothing	16	4	20
Interpersonal relationships	4	0	4
Economic factors	8	2	10
Lack of prestige	1	1	2
Physical working environment	1	1	2
Inability to do work and difficulty of work	1	0	1
Miscellaneous working conditions	5	8	13
Specific tasks involved	0	1	1

Question 4. What kinds of jobs would students choose if they could have any job they wanted?

Even though the students were free to state their choices without particular restrictions of reality, most students seemed to indicate choices within reasonable limits of expectancy. The impression was that even those who were indicating choices most likely beyond reasonable levels of expectancy did recognize the fantasy element in their responses and harbored no real expectancy of achieving their choices. Some of the occupations mentioned were "body fender man", "cook", "welder", "construction work on the highway" and "janitor work now, would have liked being a math teacher".

Question 5. What do students look for in a job besides good pay?

Response category	Men	Women	Total
Nothing	2	4	6
Interpersonal relationships	29	7	36
Independence, responsibility	2	0	2
Ease and ability to do work	13	1	14
Economic factors	5	0	5
Misc. specific working conditions	8	1	9
General working conditions	9	2	11
Specific tasks involved	2	1	3
Prestige factor	1	1	2

Question 6. What kind of jobs do students think they will have ten years from now?

Students varied considerably in their employment expectations for ten years hence, but their expectations were generally realistic. However, it was apparent that at least one-half of the students had given no systematic thought to what they might be doing ten years later. Twenty students (fifteen men and five women) were unwilling or unable to give any response other than "don't know" when asked this question. Some of the other responses were "filling station attendent", "welding", "maintenance work", and "body fender work." Even some of those answering the questions seemed to be thinking of their long term employment situation for the first time.

APPENDIX D

Findings of the Nationwide Survey of Teachers and Directors of Adult Basic Education Programs

Appendix D

Findings of the Nationwide Survey of Teachers and Directors of Adult Basic Education Programs

Out of the 500 questionnaires sent to teachers, 227 or 45% were returned. Among the 227 questionnaires returned there were 26 blank questionnaires, or they were so incomplete they could not be used; therefore the final number of useable questionnaires was 201, giving a 40% return of useable questionnaires. These questionnaires were distributed among the various areas as indicated by the following percentages:

	Number Sent	Number Useable	%
Area I:	26	5	.19
Area II:	27	9	.33
Area III:	160	66	.41
Area IV:	85	29	.34
Area V:	27	10	.37
Area VI:	27	15	.56
Area VII:	55	25	.45
Area VIII:	30	12	.40
Area IX:	56	29	.52
Area X:	11	1	.09

The number sent is the 35% random selection from the total of teachers indicated for each area, except for area X.

In addition to the teacher questionnaires, a questionnaire was sent to the directors of the adult basic literacy programs to obtain information about the respective programs. From the 97 programs in the sample, returns were received from 77 directors. There were some instances in which the directors responded, but no teachers responded; also in some instances teachers responded but no directors responded. The decision was made to use only those director questionnaires which accompanied returns from teachers. This procedure reduced the useable director questionnaires to 68. Some of the directors responding were in charge of more than one project; therefore, each question was considered upon the total number of responses for that particular question. In the following pages, the specific question asked is given, followed by a compilation of data.

Question 1. What agency or group sponsors your program?

	Frequency
E.O.A., Title II-B	42
Public Schools	25
M.D.T.A. (Manpower Development and Training Act)	10
A.F.D.C.U. (Aid to Families with Dependent Children)	3
Prison	1
Mental Hospital	1
State Department of Education	1
Department of Labor -- Job Opportunities Center	1
E.O.A., Title V	1
	N= 85

The majority of the programs surveyed were under the sponsorship of E.O.A., Title II-B. There is a possibility, however, that many of the programs listed as sponsored by the public schools were in receipt of Federal assistance, although the extent of this support was not ascertained.

Question 2. What is the length of the literacy program (in weeks)?

Weeks	Frequency
Less than 10	1
10-19	11
20-29	20
20-39	15
40 or more	19
Continuous	6
	N= 72

The range was from 8 weeks to 60 weeks. There appears to be no consistant pattern as far as the length of the program is concerned. This may be because some directors reported only one cycle of the program, i.e. 20 weeks, while the entire length is two cycles or 40 weeks. Also, some programs in the same city varied in the length of time they met.

Question 3. How often do the literacy classes meet (frequency of class meetings per week)?

Number	Frequency
1	3
2	47
3	15
4	4
5	2
5 days a week	19
	N=90

It appears that the frequency of class meetings of those programs which do not meet daily, is twice a week. Three meetings a week was the second most frequently indicated. The M.D.T.A. programs and many of the public school programs meet five days a week.

Question 4. What is the length of the literacy class period?

Length of Class Period	Frequency
45 minutes or less	2
1 hour	7
2 hours	26
2½ hours	2
3 hours	35
	N= 72

The most frequent length for the class period was either two or three hours. It is most probable that those programs which met three times a week would have class for two hours, and those that met twice a week would have a three hour class period.

Question 5. Do the literacy teachers receive compensation?

Response	Frequency
Yes	67
No	1
	N= 68

There was only one program which had a voluntary teaching staff at the time of the survey. This particular program received support from E.O.A., Title V and Title II-B.

Question 6. On what basis were students grouped or assigned to literacy classes?

Basis of Assignment	Frequency
Testing	41
Student interview and teacher recommendation	18
Last Grade Completed	7
Cultural Fair Intelligence Test	1
No Ability Assignment	1
No Response	13*
	N= 81

*These included some responses that were irrelevant to the question.

Testing appears to be used quite frequently as a means of classification of students. The types of test usually mentioned were an achievement test, an oral reading test, or a teacher-made reading placement test. In many instances testing was mentioned along with "student interview" and "teacher recommendation." It might be assumed that the last grade of school completed would be discussed during the student interview.

Question 7. Were the literacy teachers given pre-service training for the program? If yes, please give a brief description as to length of training and the topics discussed.

Response	Frequency
Yes	36
No	32
	N=68

The prevailing opinion of those who responded no was that the teachers were already certificated. Some who responded no indicated that in-service training was conducted.

The responses to the second part of the question gave evidence of considerable difference in the amount of time devoted to pre-service training. The length of time of the pre-service training varied from 4 hours to three weeks during the summer. No clear pattern of procedure could be detected.

The topics covered in the pre-service training varied. The descriptions ranged from a simple "brief session with me and interview with students", to a rather complete listing of the topics covered. The topics included the following areas:

1. Orientation to the program
2. Philosophy of Adult Basic Education
3. Understanding the Undereducated Adult (psychology)
4. Marerials to be used.
5. Teaching of adults (Methodology)
6. Administrative details

Question 8. What do you consider to have been the source or background of your best literacy teachers?

Source	Frequency
Elementary Teachers	53
Secondary Teachers	4
Junior High Teachers	2
Volunteer, College and High School	2
Social Workers	1
Adult Education Teachers	1
No Response	13
	N=76

Many of the directors listed two sources as the best, but the one mentioned most frequently was "elementary teachers."

Question 9. In your opinion, how many hours of instruction would be required for a completely illiterate adult to achieve a sixth grade reading level? (Assume a highly motivated person of slightly below average intellectual ability.)

Hours	Frequency
141-180	4
181-220	6
221-260	2
261-300	5
More than 300	34
No Response	17
	N= 68

Of those directors responding to this question, two-thirds indicated that more than three hundred hours would be needed. Based on this response six hours of instruction a week is taken as standard, it would take a minimum of fifty weeks to raise an illiterate adult to the sixth grade reading level.

Question 10. What procedures were used in securing students?

Procedures	Frequency
Public News Media	47
Governmental Agencies	42
Religious Organizations	30
Personal Contact	29
School	12
Civic Organization	9
Direct Mailing	4
Published Materials	4
Industry and Employers	4
Inmate volunteers (prison)	1
Assigned by doctors (mental hospital)	1
Sound truck	1
Billboard and Posters	1
	N=185

The tabulation indicates that the most commonly used means of obtaining students are the public news media, government agencies, religious organizations, and personal contact. The categories of response were grouped as follows:

1. Public News Media
    a. Radio
    b. Television
    c. Newspaper

2. Civic Organizations
    a. Women's Clubs
    b. O.E.O. Area Meeting
    c. Senior Citizens Centers
    d. Family Services

3. Government Agencies
    a. Welfare
    b. Employment
    c. Housing Authority
    d. Youth Corps

4. School
    a. Children
    b. P.T.A.

5. Religious Organization
    a. Church announcements
    b. Church Bulletins
    c. Salvation Army
    d. Ministerial Association.

6. Personal Contact
    a. Door-to-Door Canvas - trained recruiters
    b. Contact by school counselor
    c. Students recruit
    d. Word of mouth
    e. Telephone

7. Direct Mailing
    a. letters mailed to all residents of housing developments

Question 11. Were the students charged fees?

	Frequency
Yes	5*
No	64
No Response	3
	N= 72

* (4 directors indicated both yes and no.) That the students were not charged fees was indicated by 64 directors. In those instances where "yes" was indicated, the comment was added that it applied to the students not enrolled on an E.O.A. sponsored program. Usually it was a nominal fee of $1.00 to $5.00 which was charged by a public school program.

TEACHER QUESTIONNAIRE

The age range of those responding to the questionnaire was from 22 to 68. The median age for the women as 43.3 and the median age for the men was 31.6. The median age for the total was 40.6. The specific questions asked and the tabulation of the results are as follows:

A. Relative to teachers:

Question 1. How long have you been teaching in the present program?

Length	Frequency	Per Cent
Less than 2 months	9	.04
2-6 months	106	.53
More than 6 months	86	.43
	N= 201	100

Ninety-six (96) per cent of the teachers had had more than two months experience working with adults at the time of the survey. The majority, (53%) had from two to six months experience while 43% had more than six months experience.

Question 2. How many adult literacy classes do you now teach?

Classes	Frequency	Per Cent
1	120	.60
2	40	.20
3	18	.09
4	10	.05
5	8	.04
6	1	.004
Unusable	4	.02
	N= 201	100.4*

* Due to rounding

The majority (60%) of the teachers surveyed taught only one class. Twenty (20) per cent of the teachers indicated that they taught two classes.

Question 29. Please indicate the number of college credit hours you have had in courses in the teaching of reading.

Numbers	Frequency	Per Cent
No Credit Hours	33	17
1 to 3 credit hours	24	12
4 to 6 credit hours	45	23
More than 6 credit hours	98	48
	N= 200	100

Seventy-two (72) per cent of the teachers responding had four (4) or more college credit hours in the teaching of reading with almost half (48%) having more than six (6) credit hours. However, seventeen (17) per cent had no college credit hours in the teaching of reading.

Question 30. In your opinion, should a teacher of adult literacy classes have had at least one college level course in the teaching of reading?

Opinion	Frequency	Per Cent
Yes	186	93
No	13	7
	N= 199	100

The teachers responding were very much in agreement (93%) that at least one college level course in the teaching of reading is desirable.

Question 31. What teaching experience had you had prior to teaching your present classes?

* Experience	Frequency	Per Cent
Elementary	165	83
Secondary	21	11
Adults Only	5	3
None	8	4
	N= 199	101.00**

* Includes special education and remedial reading
** Due to rounding to next higher digit

Elementary school teachers with experience in adult education.

Experience	Frequency	Per Cent
No experience with adults	120	72.7
Previous adult literacy experience	29	17.6
Adult education, not including reading	16	9.7
	N=165	100

Eighty-three (83) per cent of the teachers surveyed had had experience in teaching reading at the elementary level. Some of those with elementary experience had previous experience with adult education also. Fourty-five (45) elementary teachers, approximately twenty-seven (27) per cent, had had previous adult education experience; twenty-nine (29) (17.5%) had worked in adult literacy programs and sixteen (9.7%) had worked in adult education which did not include the teaching of reading. However, 72 per cent of the teachers reported previous experience with teaching adults.

B. Relative to students:

Question 5. What is the range in age of the adults in the literacy classes you are now teaching? Youngest ______________ Oldest_____________.

The range of ages indicated for the youngest was from 15 to 33. The median age indicated for the youngest was 20.3.

The range of ages for the oldest students was 25.83. The median age for the oldest students was 57.3.

Question 6. What is the average age of the adults in the literacy classes you are now teaching?

The range of ages indicated was from 20 to 59. The median age for the average was 35.

Question 7. How many of your students are male?

Total number	4,648	Number of males	2,573	53%

The total number of male students reported was divided by the total number of students taught and yielded a percentage of fifty-three(53) per cent. This is, of course, an approximation, but it gives an indication of nearly equal distributions of men and women in the various classes. The total number is used since some programs consisted entirely of men and some entirely of women.

Question 8. Please indicate which, if any of the following age groups seem to make the fastest progress in learning to read.

The responses to questions 8, 9, 10, and 11 were to follow the same format. Some of the teachers responded for more than one age group in the male and female catagories, while others responded for one age group under each catagory. Two separate tabulations were made from the returns. The first tabulation recorded all responses regardless of number while the second recorded only single responses under each catagory. Both tabulations are included for questions 8, 9, 10, and 11, with the first tabulation being the one containing all responses.

ALL RESPONSES

	Male	Female	Total Number of Students
Under 21	9	14	23
21-30	46	31	77
31-45	26	27	53
46-60	6	8	14
60 +	2	7	9
	N=89	N=87	N=176

SINGLE RESPONSE UNDER MALE AND FEMALE

	Male	Female	Total Number of Students
Under 21	5	8	13
21-30	33	26	59
31-45	20	22	42
46-60	2	3	5
60+	1	2	3
	N=61	N=61	N=122

Inspection of the two tabulations shows a similarity of response. Both tabulations appear to indicate that the age group making the fastest progress is 21-30. Further inspection of this age group reveals there is a tendency for the teachers to indicate males more often than females as making the fastest progress.

Question 9. Please indicate which,if any,of the following age groups see, to make the slowest progress in learning to read.

ALL RESPONSES

	Male	Female	Total Number of Students
Under 21	14	9	23
21-30	7	10	17
31-45	14	14	28
46-60	35	33	68
60+	10	15	25
	N=80	N=81	N=161

SINGLE RESPONSE UNDER MALE AND FEMALE

	Male	Female	Total Number of Students
Under 21	10	6	16
21-30	3	4	7
31-45	10	10	20
46-60	28	27	55
60+	6	10	16
	N=57	N=57	N=114

Inspection of the tabulations reveals a similarity in the patterns of responses. Both tabulations appear to indicate the age group 46-60 as making the slowest progress. Further inspection of this age groups reveals very little difference in the responses between male and female.

Question 10. Please indicate which, if any, of the following age groups seem to be the most highly motivated to learn to read.

ALL RESPONSES

	Male	Female	Total Number of Students
Under 21	6	4	10
21-30	34	27	61
31-45	28	25	53
46-60	9	11	20
60+	1	6	7
	N=78	N=73	N=151

SINGLE RESPONSE UNDER MALE AND FEMALE

	Male	Female	Total Number of Students
Under 21	3	2	5
21-30	28	28	56
31-45	23	22	45
46-60	5	6	11
60+	0	1	1
	N=59	N=59	N-118

Inspection of the two tabulations reveals a similarity in the patterns of response but does not reveal as clearly one age group as was found in the two previous questions. The one age group receiving the greatest number of responses is 21-30,but the age group 31-45 received a large number of responses, to make the difference between the two rather small. The responses, as represented, here, tend to indicate disagreement among the teachers as to which age group is most highly motiviated. A tentative generalization might be made that those adults between twenty-one (21) and fourty-five (45) tend to be more highly motivated than the age groups at the extremes. Investigation of the two tabulations reveals little difference between responses for male and female.

Question 11. Please indicate which, if any, of the following age groups seem to be least motivated to learn to read.

ALL RESPONSES

	Male	Female	Total Number of students
Under 21	20	20	40
21-30	4	10	14
31-45	5	5	10
46-60	18	17	35
60+	9	9	18
	N=56	N=61	N=117

SINGLE RESPONSE UNDER MALE AND FEMALE

	Male	Female	Total Number of Students
Under 21	19	17	36
21-30	4	5	9
31-45	1	4	5
46-60	14	10	24
60+	6	8	14
	N=44	N-44	N=88

Inspection of the two tabulations reveals a similarity for the patterns of response, but does not reveal as clearily one age group as was found in questions 8 and 9. The age group receiving the greatest number of responses is"Under 21," but the age group 46-60 received a large number of responses to make the difference between the two rather small. A tentative generalization might be made that the youngest and oldest adults tend to be the least motivated to learn to read.

One reason for the limited number of the responses is that only those questionnaires which had responses for both male and female were used. Some of the teachers had all male students and some had all female students. Another reason for the limited number of responses is that a large number of teachers did not respond to the questions. A few of those who did not respond gave comments that they could see no difference in the effects of age and motivation on learning to read and there were those who responded incorrectly.

The findings for questions 8, 9, 10, and 11 must be tempered by the large number of"no responses". While those who responded seem to be indicating that adults in the age group "21-30" make the fastest progress, there is still need for further investigation of the effects of age on learning to read. Likewise, those teachers responding seem to indicate that adults in the age groups "21-30" and "31-45" appear to be the most motivated and the youngest and oldest seem to be the least motivated; again, the need for further investigation of the effect of age on motivation is apparent.

Any conclusions or generalizations to be drawn from questions 8,9, 10, and 11 must be viewed as very tentative due to the size of usable responses from the returns. It is noticable that under the tabulations of "all responses" there is a difference in those responses for male and female. This difference is caused by some teachers responding for two or three age groups and some for only one under male or female. Furthermore, many of the teachers were not expected to complete range of ages of students.

Question 12. At the beginning of your classes, how many of your students were reading at each of the following grade levels?

Grade Level	Number	Per Cent
Grade 1 or less	904	17
Grade 2	640	12
Grade 3	823	16
Grade 4	968	19
Grade 5	820	16
Grade 6	1,040	20
	N=5,235	100

None of the teachers responding gave indication that they taught students at only one grade level -- usually there was a three-grade spread. The percentage was derived by dividing the number of students indicated for each grade by the total number indicated. While the distribution of students among the grades is not equal, there is enough equality to suggest that equal emphasis should be given to each grade level in the development of materials.

Question 13. In your opinion, how many hours of instruction would be required for a completely illiterate adult to achieve a sixth grade reading level. Assume a highly-motivated person of slightly below average intelligence.

Hours	Frequency	Per Cent
80 hours or less	3	2
81-140 hours	6	3
141-180 hours	8	4
181-220 hours	16	9
221-260 hours	19	10
261-300 hours	29	15
more than 300 hours	105	56
	N=188	99

The majority (56%) of the teachers were of the opinion that more than 300 hours of instruction time would be needed to raise an illiterate to the sixth grade reading level. If we consider the two time intervale most often indicated, we find 71% of the opinion that more than 260 hours would be needed. If a program met for 52 weeks and had 6 hours of instruction, there would be 312 hours of instruction for the year. Most of the programs surveyed do not provide this amount of instruction.

Question 14. For what number of the students in your present class or classes has each of the following factors served as a handicap in their learning to read (some of these might never have been a handicap and others may have handicapped all of the students)?

Factor	Frequency	Per Cent*
Substandard use of English	1,684	20
Restructed speaking and listening vocabulary	1,483	18
Irregular attendance	1,136	14
Low intellectual ability	972	12
Lack of motivation	595	7
Vision	501	6
Too short attention span	431	5
Too large a class size	417	5
Lack of adequate instructional materials	413	5
Physical handicap such as poor motor coordination	176	2
Hearing	164	2
Speech defects	150	2
Other	155	2
	N=8,277	100

* Represents per cent of total number indicated

There appears to be no single major handicap in learning to read. Four factors accounted for sixty-four (64) per cent of the total number. These four factors, in rank order were : (1) substandard use of English, (2) restricted speaking and listening vocabulary, (3) irregular attendance, and (4) low intellectual ability.

Question 18. Among your voluntary students what specific motivations to learn to read and write have become apparent?

I

VOCATIONAL RELATED

	Frequency of Mention
1. Get a better job	79
2. Read application forms and fill out (forms)	19
3. Required on jobs	9
4. Pass English test to get training (get into a trade)	8
5. To be able to follow instructions	6
6. Pass promotion test in employment	5
7. Pass nurse's test	4
8. Join service	3
9. Pass civil service exams	3
10. Read instructions pertaining to occupation	2
11. Read manuals on TV and radio repair	1
12. Read about auto mechanics	1
13. How to be better salespeople	1
14. Job opportunities	1
15. Background for vocational training	1

II

DAILY LIVING RELATED MOTIVATION

	Frequency of Mention
1. Want to read and write letters	55
2. Read newspapers (current events)	52
3. Pass driver's test	22
4. Read signs and maps	13
5. Sign name on pay check (services of bank)	6
6. Carry on normal business transaction	5
7. Know what they are signing	4
8. Read newspaper "ads" and shopping	3
9. Voting	2
10. Read menus	1

11. Addresses	1
12. Friend's names	1
13. Names of cars	1
14. Calendar (months and days)	1
15. Encyclopedia	1
16. Dictionary	1
17. Receive additional financial aid	1
18. Talk on a telephone	1
19. Order things from a catalogue	1
20. Read periodicals	1

III

PERSONAL IMPROVEMENT RELATED MOTIVATION

	Frequency of Mention
1. Want to read the Bible	31
2. High school diploma	28
3. Personal improvement	26
4. Learn to read English and communicate (pass citizenship test)	15
5. Take part in church and community organizations	12
6. Ability to associate with people with a sense of security (understand people)	8
7. Reading for reading's sake	5
8. Finish elementary school	4
9. Dignity of the individual	2
10. Write daily journal	2
11. Go to college	2
12. Express themselves in P.T.A. meeting	1
13. Learn to read to get a decent wife	1
14. Personality improvement	1
15. Tired of bluffing the world.	1
16. History	1
17. Family gone, now has time	1
18. Desire for knowledge	1
19. Wife had died - had no one else to read	1
20. General convenience	1
21. Read and write as well as spouse	1
22. Status improvement	1
23. Understand world's problems	1
24. Knowledge for knowledge's sake	1

IV

FAMILY RELATED MOTIVATIONS

	Frequency of Mention
1. Help children	42
2. Doesn't want family to feel ashamed (keep up with children)	16
3. Read receipes and other instructions about home	8
4. Health and adequate care of children	2

V

RECREATIONAL RELATED MOTIVATION

	Frequency of Mention
1. Read for enjoyment	11
2. How to use leisure time	2
3. What appears on TV	2
4. Comic books	2
5. Read directions for playing a guitar	1

Rank order of fifteen most frequent responses

RANK ORDER OF TOP FIFTEEN RESPONSES

	Frequency of Mention
1. Get a better job	79
2. Want to read and write letters	55
3. Read newspapers (current events)	52
4. Help children	42
5. Want to read the Bible	31
6. Get a high school diploma	28
7. Personal improvement	26
8. Pass driver's test	22
9. Read application forms and fill out (forms)	19
10. Doesn't want family to be ashamed (keep up with children)	16
11. Learn to read English to communicate (pass citizenship test)	15
12. Signs and maps	13
13. Read for enjoyment	11
14. Take part in church and community organizations	10
15. Required on jobs	9

The prevailing motives appear to be oriented toward daily living, personal improvement, and vocational goals. The assignment to the different catagories was made by two of the staff, but still was somewhat arbitrary.

When the frequency of response is considered in rank order, the same pattern is found, with two exceptions. Ranking near the top (4) is "help children" which was placed under the Family Related area. Further down in the ranking (13) is "read for Enjoyment" which was placed under the Recreational Related area.

Question 19. Of those students you are teaching who entered the program voluntarily, what percentage of them had no specific motivation other than a general desire for self-improvement?

The range of percentages indicated by the teachers was from 0 per cent to 100 per cent. The median percentage was 49.8 per cent. This finding tends to indicate that a large number of students enter the programs with no motivation other than general self-improvement.

C. Relative to program

Question 15. In your opinion, what is the maximum period of time suitable for a single reading class session?

Length	Frequency	Per Cent
30 minutes or less	22	11
31-40 minutes	19	10
41-50 minutes	39	20
51-60 minutes	69	35
90 minutes	20	10
100 minutes	2	1
120 minutes	18	9
150 minutes	2	1
180 minutes	6	3
200 minutes	1	.5
	N=198	100

The opinions of the teachers were divided as to the most suitable length of a single class period. The time period "51-60 minutes" was most frequently mentioned. This period recieved thirty-five (35) per cent of the responses. By combining the second most frequently mentioned time period, "41-50 minutes," with the one mentioned most often, we can account for fifty-five (55)per cent of the responses. This appears to indicate that a single class period should be limited to sixty (60) minutes or less.

Question 16. In your opinion, what is the maximum number of students for a reading class which still permits adequate instruction and attention?

Number	Frequency	Per Cent
1-4	3	2
5-9	44	22
10-14	81	41
15-19	47	24
20-24	18	9
25-29	4	2
	N=197	100

The class size most frequently recommended was the interval "10-14", which received forty-one (41) per cent of the responses. The three intervals "5-9", "10-14", and "15-19" account for eighty-seven (87) per cent of the responses. A tentative generalization regarding the size of a reading class to permit adequate instruction might be that it sould contain between five (5) and twenty (20) students with the optimum size being ten (10) to fourteen (14).

Question 17. Which of the following types of tests should be administered to adult illiterates prior to their receiving instruction in reading?

Type of Test	Frequency	Rank
Read Achievement	110	1
Vocabulary level	93	2
Intelligence	87	3
Interest inventory	71	4
none	40	5
other	13	6

In response to this question the teachers could indicate more than one type of test and most of them did. The type of test chosen most frequently was "reading achievement."

Question 21. With which of the following statements about testing do you agree?

(A) Illiterate adults tend to react unfavorably to a testing situation and for this reason valid test results are not generally attainable.

(B) Valid test results can be obtained.

Agreement	Frequency	Per Cent
(A)	114	59
(B)	79	41
	N= 193	100

The majority (59%) of the teachers agreed with the statement indicating that valid tests results are not generally attainable. It was noted that many of those responding to statement (A) gave indication that different types of tests should be given prior to instruction in reading. A tabulation of responses for Question 17 was made for those agreeing with statement (A). This tabulation is as follows:

Type of Test	Frequency
Reading Achievement	54
Vocabulary Level	45
Intelligence	38
Interest Inventory	40
None	33

Inspection of the two tabulations reveals a similarity in the patterns of response with those who did not think valid test results were attainable providing slightly less than half of the response for each category with two exceptions: For the "Interest Inventory" category they provided more than half and for the "none" category they provided practically all of the responses. This gives some indication of the confused state with regard to testing of the illiterate adult. There is a need for further investigation concerning the use of tests in the programs for reading.

Perhaps some of the more typical comments made by teachers who responded to (A) or (B) will help to explain the teachers thinking as far as testing is concerned.

COMMENTS BY TEACHERS WHO RESPONDED TO STATEMENT (A):

"They say, "We came to learn, not to be tested." "Have set up a mental block against testing". "Because of lack of confidence they become defiant and unable to answer questions objectively." "These people cannot understand the slightest explanation. They cannot work on their own. They want to copy the teacher". "Student needs at least 12 hours of class time to build confidence and assurance tests are for teachers only."

COMMENTS BY TEACHERS WHO RESPONDED TO STATEMENT (B):

"My students enjoy tests." "Despite their inadequate feelings, these adults seem to understand the need to determine specific weaknesses in order to help them improve when it is explained to them".

"They want to know how they stand and work harder to higher achievement levels."

"Adults are able to recognize their capabilities and accept their limitations."

"About 75-80% of test scores have been compatible with ability."

In view of the comments made by the teachers, an interesting question might be: To what extent is their attitude toward testing a reflection of the students?

Question 3. How many students were enrolled in your present classes when they started? (Total=number of students in all of your literacy classes combined).

Question 4. How many of these students have dropped out?

Total Number Enrolled	Number of Dropouts	Percent of Dropouts
5,492	1,305	24

There was some difficulty in determining the total number of students since some teachers included original plus additions to the classes; therefore, the per cent of dropouts should be viewed as a rough approximation. It does indicate that the programs were successful in retaining a large number of the adults. This power of retention is commendable since most of the adults were volunteers. It may be expected that this per cent of dropouts may be reduced in the future.

Question 20. How significant do you feel each of the following factors has been in the dropout rate of your students. Check each factor on the continum zero through 51:

	No Significance			Very Significant		
	0	1	2	3	4	5
(a) Lack of confidence in ability to learn	18	22	15	13	15	13
(b) Family and personal crisis	6	17	17	20	15	21
(c) Asked to drop due to students lack of cooperation	80	11	3	2		
(d) Transportation problems	25	23	15	15	6	12
(e) Time conflicts due to work	13	13	13	18	21	18
(f) Inability to get babysitter	44	21	8	7	9	7
(g) Change in residence	48	20	9	6	7	6
(h) Dissatisfaction with instructional material	46	26	16	3	3	2
(i) Feelings of social inadequacy	48	20	8	11	4	5
(j) Physical disabilities	60	21	6	2	1	6
(k) Lack of motivation	38	12	9	21	10	6

N (for each row) = 96

The teachers were asked to respond to each of the factors, but many did not. Many responded to all but one or two of the factors; therefore, it was decided to use only those questionnaires where responses had been given for each factor. This decision reduced the number usable for this question to ninety-six (96). The complete tabulation of these responses has been presented above; however, a better view can be obtained by combining the responses for the two extremes (i.e., 0 and 1). The results of this procedure are as follows:

	No Significance 0 and 1	Very Significant 4 and 5
(a) Lack of confidence in ability to learn	40	38
(b) Family and personal crisis	23	36
(c) Asked to drop due to students lack of cooperation	91	0
(d) Transportation problems	48	28
(e) Time conflicts due to work	26	39
(f) Inability to get babysitter	65	16
(g) Change in residence	68	13
(h) Dissatisfaction with instructional material	72	5
(i) Feelings of social inadequacy	68	9
(j) Physical disabilities	81	7
(k) Lack of motivation	50	16

Inspection of this combined tabulation reveals that only two factors were considered to be significant. These factors are (b) family and personal crisis and (e) time conflicts due to work. The responses were almost evenly divided with regard to (a) lack of confidence, which indicates some uncertainty as to the extent this factor causes dropouts. The remaining factors were considered to be of no significance as far as dropout rate is concerned.

D. RELATIVE TO MATERIALS

Question 23. Please list topics which you feel would either be of high interest or of substantial benefit to adult illiterates. Be as specific as possible in your topics.

PRACTICAL NEEDS I

	Frequency of Mention
1. Current events (newspapers)	84
2. Social Security Benefits (welfare) (medicare)	29
3. How to obtain health benefits (communicable diseases)	8
4. First Aid	6
5. Preparing for a drivers test	5
6. Maps	5
7. How to take a test	3
8. Telephone book (use the phone)	3
9. Time tables (Bus schedules)	3
10. Safe driving	2
11. Menues (How to read a menu)	2
12. Signs, labels	2
13. How to read books	2

14.	Civil Defense	1
15.	Calendar events	1
16.	How to select and check out a library book	1
17.	T.V. and Radio Schedules	1
18.	Dictionaries	1
19.	Names of common everyday items (salt, coffee, etc)	1
20.	Food stamp program	1

MONEY MANAGEMENT II

		Frequency of Mention
1.	How to manage money (buying on credit) (sales, budgets) (checks)	52
2.	Information on tax returns	28
3.	Automobile insurance	20
4.	Shopping (consumer buying)	13
5.	Banking	8
6.	Consumer reports	4
7.	General merchandize catalogues	2
8.	Organizing a credit union	1
9.	Investments	1
10.	Stocks and bonds	1
11.	How to detect credit abuses	1
12.	How to read simple contracts	1

FAMILY RELATIONS III

		Frequency of Mention
1.	Homemaking (childrearing, health and nutrition, cooking, sewing)	48
2.	How to help children	7
3.	Moral and religious stories	4
4.	Stories about happy family life in low and average income families	3
5.	Birth control	3
6.	Day in park with family (family relations)	2
7.	Cooking	2
8.	Mental Health	2
9.	Information on P.T.A.	2
10.	Sex education	2
11.	Personal problems of others	1
12.	Alcholoism	1
13.	Home nursing services	1

GOVERNMENT AND LEGAL IV

		Frequency of Mention
1.	State, Local, and National Government (duties and qualifications)	37
2.	Good Citizenship (rights and duties)	10
3.	Community problems (projects)	8
4.	Laws and lawmakers	6
5.	Traffic laws	6
6.	Rights of individuals	4
7.	Laws relating to real estate (mortgages and loans)	3
8.	Citizenship	3
9.	Voting	2
10.	Respect for the law	2
11.	Legal aide society	2
12.	Community resources	2
13.	Court procedures	1
14.	Laws (wills, divorce, criminal, civil, when do we need a lawyer)	1
15.	Politics	1

VOCATIONAL V

		Frequency of Mention
1.	Mechanics, (vocational booklets)	20
2.	Filling out applications and forms	19
3.	Books about interest or jobs	13
4.	Information on getting a job and holding it	9
5.	Farming, conservation	7
6.	Labor laws, health and safety	5
7.	Want ads (answering and advertising)	4
8.	How to prepare for an interview	4
9.	Job opportunities	4
10.	Road maintenance	1
11.	Relation of school room and on the job habits	1
12.	Action stories (logging, loading ships, trucking, etc.)	1
13.	Construction work	1
14.	Follow directions	1
15.	Working for U.S. Government	1
16.	Unemployment and automation	1

PERSONAL IMPROVEMENT VI

		Frequency of Mention
1.	Personal grooming	11
2.	School subjects (read, writing, and arithmetic)	7
3.	Writing letters	6

4.	Etiquette	4
5.	Uplift stories	4
6.	Carrying on a telephone conversation (use of a phone)	3
7.	Literature (classics)	3
8.	Grammar	2
9.	Writing and spelling	2
10.	Psychology (What is it) Understanding oneself	2
11.	How to disagree without being disagreeable, How to get along with others	2
12.	Improve habits of speech	2
13.	How to conduct oneself at a business meeting	1
14.	Learning to speak and write correctly	1
15.	Social sciences (concrete subjects such as social graces)	1
16.	Survey course in art and music	1
17.	How and why to study	1
18.	Materials to help them be more self supportive	1
19.	Reading about ordinary people like themselves	1
20.	Fashion stories about recent trends	1

HISTORY AND GEOGRAPHY VII

		Frequency of Mention
1.	History (Since W.W.I) (State) (Local)	37
2.	Biographies	37
3.	Stories of other countries (also U.S.)	28
4.	Local and State points of interest	4
5.	Short stories on American customs	3
6.	Negro History	2
7.	Customs of various racial and ethnic groups	1
8.	Read maps and charts	1

SCIENCE VIII

		Frequency of Mention
1.	Science, plants and animals	21
2.	Space adventure (adventure)	8
3.	Inventions	2
4.	Sea adventure	1
5.	Weather	1
6.	Communications (Radio, T.V., telephone, etc.)	1

RECREATION IX

		Frequency of Mention
1.	Recreation (Sports page, magazine)	13
2.	True events (true life situations)	3
3.	Humor (amusing stories)	3
4.	Fiction	2
5.	Comic Books (cartoon or comic strip characters)	2
6.	Travel brochures (travel)	2
7.	Westerns and Mysteries	2
8.	Use of leisure	1
9.	Folk songs and ballads	1
10.	Unusual facts	1
11.	Fishing	1
12.	Stories, songs, and poems of inspiration	1
13.	Good hobbies	1
14.	Low cost places of entertainment	1
15.	Personalities in show business	1

Sixteen Topics most Frequently Mentioned

		Frequency of Mention
1.	Current Events (newspapers)	84
2.	How to manage money (buying on credit)(sales, budgets, checks)	52
3.	Homemaking (childrearing, health and nutrition, cooking, sewing)	48
4.	History (Since World War II) (State) (Local)	37
5.	State, Local and National government (Duties and Qualifications)	37
6.	Biographies	37
7.	Social Security Benefits (welfare) (Medicare)	29
8.	Stories of other countries (also U.S.)	28
9.	Information on tax returns	28
10.	Science (plants and animals)	21
11.	Automobile Insurance	20
12.	Mechanics (vocational booklets)	20
13.	Filling out applications and forms	19
14.	Shopping (consumer buying)	13
15.	Books about interest or jobs	13
16.	Recreation (sports page, magazines)	13

The suggested topics were quite extensive in scope. They were arbitrarily grouped into nine (9) categories in an effort to give some organization to the responses. Most of the suggested topics were oriented toward practical daily living needs of the adults, i.e. reading newspapers, rearing children, managing money, etc. Some of the suggested topics were of a general information nature, i.e. history, science, biographies, etc. Relatively few topics were directed toward vocational preparation, recreational reading, or personal improvement. One reason for this might be found in the arbitrary assignment of topics to categories. Another reason might be that the teachers do not think these topics would be of interest or benefit to the adults in their programs.

Question 24. Please list topics which you feel would not be appropriate for adult literacy materials.

	TOPICS	Frequency
1.	Books about children's experiences	22
2.	Nothing technical or abstract	15
3.	Children's books	13
4.	Controversial religious issues	13
5.	Topics that made them feel inferior	6
6.	Crime and accidents	5
7.	Classical literature	5
8.	English grammar	5
9.	Sex education	4
10.	Races of any type	4
11.	Math beyond percentages	3
12.	Nothing morbid or pestimistic	3
13.	Things that concern "outside" world and not their own	3
14.	Anything with a moral	3
15.	History	3
	No response	96

Slightly more than fifty (50) per cent of the teachers responded to this item. There was great variety among those responding regarding topics to be avoided. The topics most often suggested were: (1) "books about children's experiences", (2) nothing technical or abstract, (3) "Children's books", and (4) "controversial religious issues". The large number with no response might be interpreted to mean that these teachers did not think that topics exist that should be avoided.

Question 25. Please indicate the degree to which you feel the reading content to be significant factor in the successful teaching of adult illiterates.

Extent of Significance	Frequency	Per cent
Of no real significance	5	.03
A contributing but minor factor	19	.10
A contributing and major factor	121	.67
The primary factor	35	.20
N =	180	100

Two-thirds of the teachers responding considered the content to be a contributing and major factor in the successful teaching of adult illiterates.

Twenty (20) percent considered the content to be the primary factor. It might be said that eighty-seven (87) percent of the teachers responding considered the content to be very important in teaching adults to read.

Question 26. With which of the following statements concerning the role of pictorial illustrations in adult literacy materials do you agree?

Statements	Frequency	Per cent
1. Illustrations are not particularly helpful or useful	14	.06
2. Illustrations are helpful and should be used throughout the materials at all levels	134	.54
3. Illustrations are more helpful at the lower levels than the upper reading levels	97	.39
4. Illustrations are more helpful at the higher reading levels than the lower reading levels	2	.01
5. Agree with none of the above	3	.01
N =	250	101*

* due to rounding

A majority (54%) of those responding agree that illustrations should be used at all levels.

Some of the teachers responded to two of the statements accounting for the two-hundred-fifty (250) responses. Those who responded to more than one statement chose statements (2) and (3). Teachers responding to two statements seemed to agree that illustrations should be used throughout all levels, but were more helpful at the lower levels.

LIMITATIONS OF THE SURVEY

The date and general conclusions to be drawn from these data are limited by the following factors:

1. Loss of random selection at the point of distribution.
2. Lack of knowledge as to the extent the sample used is representative of the population of adult literacy teachers.
3. Lack of knowledge as to the extent the useable forty (40) percent of returned questionnaires is representative of the entire sample.
4. Lack of completeness and clarity of response to the various questions contained in the questionnaires which resulted in different N's for various questions.
5. Lack of knowledge as to the actual competency of the teachers and their knowledge of the adult illiterates they teach.

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